S. HRG. 102-720

WEAPONS PROLIFERATION IN THE NEW WORLD ORDER

HEARING

BEFORE THE

COMMITTEE ON GOVERNMENTAL AFFAIRS UNITED STATES SENATE

ONE HUNDRED SECOND CONGRESS

SECOND SESSION

JANUARY 15, 1992

Printed for the use of the Committee on Governmental Affairs

U.S. GOVERNMENT PRINTING OFFICE
56-928 WASHINGTON : 1992

For sale by the U.S. Government Printing Office
Superintendent of Documents, Congressional Sales Office, Washington, DC 20402
ISBN 0-16-039043-5

COMMITTEE ON GOVERNMENTAL AFFAIRS

JOHN GLENN, Ohio, *Chairman*

SAM NUNN, Georgia
CARL LEVIN, Michigan
JIM SASSER, Tennessee
DAVID PRYOR, Arkansas
HERBERT KOHL, Wisconsin
JOSEPH I. LIEBERMAN, Connecticut
DANIEL K. AKAKA, Hawaii

WILLIAM V. ROTH, JR., Delaware
TED STEVENS, Alaska
WILLIAM S. COHEN, Maine
WARREN B. RUDMAN, New Hampshire
JOHN SEYMOUR, California

LEONARD WEISS, *Staff Director*
RANDY RYDELL, *Professional Staff*
FRANKLIN G. POLK, *Minority Staff Director and Chief Counsel*
MICHAL SUE PROSSER, *Chief Clerk*

CONTENTS

WITNESSES

WEDNESDAY, JANUARY 15, 1992

WEAPONS PROLIFERATION IN THE NEW WORLD ORDER

WEDNESDAY, JANUARY 15, 1992

U.S. SENATE,
COMMITTEE ON GOVERNMENTAL AFFAIRS,
Washington, DC.

The committee met, pursuant to notice, at 10:09 a.m., in room SD-342, Dirksen Senate Office Building, Hon. John Glenn (chairman of the committee) presiding.

Present: Senator Glenn.

OPENING STATEMENT OF CHAIRMAN GLENN

Chairman GLENN. Good morning. Today, I am pleased to call to order the first meeting of this Committee in 1992. It will be the first of two hearings this month on the problem of halting the global spread of nuclear arms and other weapons of mass destruction. The next hearing will be on Tuesday, the 21st of January, on the subject of verifying foreign nuclear commitments.[1]

The Governmental Affairs Committee has special responsibilities in this area. It is written into our charter by the Senate that we will keep track of the non-proliferation problem and have hearings on that, and so it is an assigned responsibility to this Committee.

World peace in this century has been preserved not just by the might of the superpowers, but by commitments shared by these superpowers and over 142—I believe the current count is 142 other nations have signed the NPT not to acquire or use nuclear arms. These commitments, and others involving other weapons of mass destruction, have been registered in the most binding manner possible under international law. They are enshrined in treaties like the Nuclear Non-Proliferation Treaty, the Biological Weapons Convention, and the Geneva Protocol prohibiting the uses of chemical or biological weapons.

For each treaty, nations have enacted domestic legislation to ensure that all citizens honor the national obligations that have been made. Today, however, many of these laws and treaties, as well as the institutions that have grown around them, are being challenged as never before by forces that appear sometimes to be virtually out of control.

First, the very welcome demise of the Soviet Union has led to growing doubts about the ability of the new republics in the Commonwealth of Independent States, CIS as it is now being called, to

[1] Note: This hearing was cancelled due to scheduling conflicts.

reaffirm and strengthen the global commitment to non-proliferation.

We are seeing more and more reports of possible—I say possible—black market transactions originating in former Soviet territories, deals that involve a variety of sensitive nuclear materials and advanced conventional arms. We are seeing televised interviews with Soviet nuclear scientists who report recent efforts by Libya and Iraq and other nations to recruit these scientists for military programs.

We are seeing little evidence that the CIS republics have adopted credible national security and export control systems to prevent illicit exports of weapons-related goods and technology. Meanwhile, commercial enterprises that are struggling with depressed economies both here and abroad are pressing for more liberalized export controls just at a time when such controls should be tightened around the world.

We are hearing new concerns about the ability of the CIS republics to ensure the command and control of the deadly weapons of mass destruction in their territories, including thousands of nuclear weapons. But the CIS republics obviously are not the only threat to the ability of the world community to avoid the use of such weapons.

In South Asia, India and Pakistan continue their unsafeguarded nuclear activities and are showing no interest in ever joining the NPT, the Nuclear Non-Proliferation Treaty, soon. These nations may someday be the only key nations on earth that still reject this treaty as discriminatory.

In the Middle East, recent inspections have confirmed not only that Iraq had a robust nuclear weapons program, but that it is a continuing effort. Meanwhile, Iran and Syria continue their longstanding interest in acquiring weapons of mass destruction, and in such an environment Israel's own robust nuclear program continues without much evidence of concern from Western governments, including our own.

In East Asia, North and South Korea appear to be making some progress toward banning not only nuclear weapons, but also uranium enrichment and nuclear reprocessing facilities from the greater Korean peninsula—a welcome development, provided that North Korea's commitments can be believed and can be verified. If these agreements break down, all of East Asia could become embroiled in a nuclear arms race or a devastating war.

So halting proliferation is not an option for us; it is an absolutely essential objective of our national security and a crucial factor determining our country's future. It is, one might say, America's new manifest destiny. Our goal must be to work more closely with other nations to achieve not just a new world order, but a more peaceful world.

I have been fighting through my 17 years in the Senate for tougher controls against the global spread of nuclear weapons. Our first major legislative effort on that was back in 1978, the Nuclear Non-Proliferation Act, which is still on the books, of course, the law of the land.

In the last three years I have served on the Intelligence Committee, I have generally been impressed with our intelligence capabili-

ties in this area. I concluded long ago, however, that the proliferation threat merited a more comprehensive and coordinated effort by the intelligence community.

Accordingly, prior to the Iraqi invasion of Kuwait in 1990, I was successful in including in the fiscal 1991 intelligence authorization bill language requesting the DCI to establish an interagency proliferation structure with representation from all relevant components of the intelligence community, and tasked to make recommendations to the DCI to enhance all-source collection on proliferation issues. Since that time, of course, our Nation fought a war with Iraq in which U.S. forces had to be prepared to face the possible use of weapons of mass destruction. Indeed, an Iraqi missile attack killed or wounded dozens of U.S. soldiers.

We are equally concerned, I might add, about chemical weapons and biological weapons, which have been described as the poor country's nukes because they are so much easier to put together. It doesn't require the huge infrastructure, nor some of the technical expertise that is necessary for nuclear weapons, and we have asked Mr. Gates to address some of those issues, also, today.

We are fortunate to have as today's witness an individual who comes to office with some very unique qualifications to address many of these issues. As Director of Central Intelligence at a time when the national security agenda is being redefined from its long preoccupation with the Cold War, Bob Gates brings to his office not only extensive personal knowledge about conditions in the new Commonwealth, but in recent speeches he has underscored his commitment to improving America's vigilance in coping with the global spread of weapons of mass destruction.

In his written responses, for example, to my questions during his confirmation hearings last October, he stated the following. "I believe that the most urgent and immediate threat facing the United States is that of chemical, biological, nuclear, and ballistic missile technologies proliferation."

So I hope that today you will be able to document for this Committee, with some concrete examples, your conviction that this threat is as urgent and as immediate as you have stated.

We are obviously entering a new era of world affairs, and it seems to me appropriate that as the Eurasian map undergoes change, so should the organization charts and budgets of some of our key national security and intelligence agencies adapt to reflect these new international realities.

I think some of the stability we have had in the past, while it was negative, we at least had a form of stability. We sort of knew what to expect out of the Soviet Union, but that is all changed now. Some of the stability of the past is gone and we are into a time period of greater uncertainty. I felt that is what we were getting into last year when I fought very hard to try and get increased money for the intelligence functions of our Government, not less, not cutting back, because I think at the time of uncertainty is when we need more and better intelligence activity, not to cut back on some of those activities and just presume that things will be okay for the future. If we ever have to build our military back up again, it had better be from the best intelligence base we possibly can provide, not the least we can provide.

I hope today, Mr. Gates, that you will break some new ground by encouraging greater public dissemination of information about these threats to our security. The ability of Congress, the press, the bureaucracy, and the American public to understand and respond to these threats will, to a large extent, depend upon the willingness and the ability of the intelligence community to keep the rest of us fully and currently informed.

So on behalf of the Committee, I appreciate your willingness to appear today, especially on such short notice, and we wish you well in this tough job that you have ahead, and we will look forward to any statement you have.

I am sorry that our hearing today comes at a time when several of our members are off on trips and have not returned from their districts yet. Some of them may be by a little bit later today, but I know from personal experience all of them are vitally interested in this, and we look forward to your testimony today.

Thank you.

PREPARED STATEMENT OF SENATOR GLENN

Today I am pleased to call to order the first hearing of this Committee in 1992. This will be the first of two hearings this month on the problem of halting the global spread of nuclear arms and other weapons of mass destruction—the next hearing will be on Tuesday, the 21st of January on the subject of verifying foreign nuclear commitments.

World peace in this century has been preserved not just by the might of the Superpowers, but by commitments shared by these Superpowers and over a hundred other nations not to acquire or use nuclear arms or other weapons of mass destruction. These commitments have been registered in the most binding manner possible under international law: they are enshrined in treaties like the Nuclear Non-Proliferation Treaty, the Biological Weapons Convention, and the Geneva Protocol prohibiting the uses of chemical or biological weapons. For each treaty, nations have enacted domestic legislation to ensure that all citizens honor the national obligations that have been made.

Today, however, many of these laws and treaties—as well as the institutions that have grown around them—are being challenged as never before by forces that appear to be virtually out of control.

First, the welcome demise of the Soviet Union has led to growing doubts about the ability of the new republics in the Commonwealth of Independent States (CIS) to reaffirm and strengthen the global commitment to nonproliferation:

We are seeing more and more reports of black market transactions originating in former Soviet territories, deals that involve a variety of sensitive nuclear materials and advanced conventional arms.

We are seeing televised interviews with Soviet nuclear scientists who report recent efforts by Libya, Iraq, and other nations to recruit these scientists for military programs.

We are seeing little evidence that the new CIS republics have adopted credible national security and export control systems to prevent illicit exports of weapons-related goods and technology—meanwhile, commercial enterprises that are struggling with depressed economies both here and abroad are pressing for more liberalized export controls, just at a time when such controls should be tightened around the world.

We are hearing new concerns about the ability of the CIS republics to ensure the command and control of the deadly weapons of mass destruction in their territories, including thousands of nuclear weapons.

But the CIS republics obviously are not the only threat to the ability of the world community to avoid the use of such weapons:

In South Asia, India and Pakistan continue their unsafeguarded nuclear activities and are showing no interest in ever joining the Nuclear Non-Proliferation Treaty—soon, these nations may well be the only key nations on Earth that still reject this treaty as "discriminatory."

In the Middle East, recent inspections have confirmed not only that Iraq had a robust nuclear weapons program, but that it is a continuing effort; meanwhile, Iran

and Syria continue their long-standing interest in acquiring weapons of mass destruction, and in such an environment, Israel's own, robust nuclear program continues without much evidence of concern from western governments, including our own.

In East Asia, North and South Korea appear to be making some progress toward banning not only nuclear weapons but also uranium enrichment and nuclear reprocessing facilities from the greater Korean peninsula—a welcome development provided that North Korea's commitments can be believed and verified. If these agreements break down, all of East Asia could become embroiled in a nuclear arms race or a devastating war.

Halting proliferation is not an option for us—it is an absolutely essential objective of our national security and a crucial factor determining our country's future. It is, one might say, America's new Manifest Destiny—our goal must be to work closely with other nations to achieve not just a "new world order," but a more peaceful world.

I have been fighting throughout my 17 years in the Senate for tougher controls against the global spread of nuclear weapons. In the last three years that I have served on the Intelligence Committee, I have generally been impressed with our intelligence capabilities in this area—I concluded long ago, however, that the proliferation threat merited a more comprehensive and coordinated effort by the Intelligence Community.

Accordingly, prior to the Iraqi invasion of Kuwait in 1990, I was successful in including in the FY 1991 Intelligence Authorization Bill language requesting the DCI to establish an interagency proliferation structure with representation from all relevant components of the Intelligence Community and tasked to make recommendations to the DCI to enhance all-source collection on proliferation issues. Since that time, our nation fought a war with Iraq in which U.S. forces had to be prepared to face the possible use of weapons of mass destruction—indeed, an Iraqi missile attach killed or wounded dozens of U.S. soldiers.

We are fortunate to have as today's witness an individual who comes to office with some unique qualifications to address many of these issues. As Director of Central Intelligence at a time when the national security agenda is being redefined from its long preoccupation with the Cold War, Bob Gates brings to his office not only extensive personal knowledge about conditions in the new Commonwealth, but in recent speeches he has underscored his commitment to improving America's vigilance in coping with the global spread of weapons of mass destruction.

In his written responses, for example, to my questions during his confirmation hearings last October, he stated the following:

"I believe that the most urgent and immediate threat facing the United States is that of chemical, biological, nuclear, and ballistic missile technologies proliferation."

Mr. Director, I hope that you will be able today to document for this Committee—with some concrete examples—your conviction that this threat is as "urgent and immediate" as you have stated.

We are obviously now entering a new era of world affairs, and it seems to me appropriate that as the Eurasian map undergoes change, so should the organization charts and budgets of some of our key national security and intelligence agencies adapt to reflect these new international realities.

I also hope that you will break some new ground by encouraging greater public dissemination of information about these threats to our security. The ability of Congress, the press, the bureaucracy, and the American public to understand and respond to these threats will to a large extent depend upon the willingness and ability of the intelligence community to keep the rest of us fully and currently informed.

On behalf of the Committee, I appreciate your willingness to appear today—especially on such short notice—and we wish you well in the tough job you have ahead.

TESTIMONY OF ROBERT M. GATES, DIRECTOR, CENTRAL INTELLIGENCE AGENCY, ACCOMPANIED BY GORDON OEHLER, NATIONAL INTELLIGENCE OFFICER FOR SCIENCE, TECHNOLOGY, AND PROLIFERATION

Mr. GATES. Thank you very much, Mr. Chairman. I welcome the opportunity to talk today about a subject of critical importance, as you have indicated. The intelligence community has been concerned about the proliferation of weapons of mass destruction for a number of years. In that time, our resources for tracking and com-

batting the problem have grown substantially, and we have recently made the organizational changes you have just described to deal with it more effectively; specifically, the creation of our Interagency Non-Proliferation Center. As Director of Central Intelligence, I intend to continue to make the proliferation problem a top priority for U.S. intelligence.

The intelligence community has also conveyed consistently its concerns to policymakers, to the Congress, and to the public. For example, Judge Webster addressed the subject in an open session of this Committee in February of 1989, and again in a public speech in May of 1989. I believe the policy community has taken our concerns seriously and has done a good deal to address them. Agreements like the Missile Control Technology Regime and formation of consultative bodies on the spread of chemical and biological weapons, like the Australia Group, are just two examples of this effort. There are many individual U.S. initiatives underway or planned. I will touch on a few of those in my remarks today, but I would urge the Committee to get a more complete picture from the administration of these diplomatic efforts underway.

In the wake of Desert Storm, after we discovered just how far Iraq had gotten in its nuclear weapons program, we have succeeded in further energizing the international community to combat the proliferation effort. The cooperation that has existed between traditional allies has spread to include other members of the world community and even includes the new republics formed from the old Soviet Union.

With these preliminaries, let me now provide an overview of the problem. First, I will speak generally, and then address the concerns raised by the dissolution of the Soviet Union, and then turn to the problems we face in other regions.

We continue to witness a steady and worrisome growth in the proliferation of advanced weapons. Today, over 20 countries have, are suspected of having, or are developing nuclear, biological, or chemical weapons and the means to deliver them.

There are several reasons for the proliferation of weapons of mass destruction. First, and perhaps foremost, the technologies used in these weapons are simply more available and more easily absorbed by Third World countries than ever before. Nuclear and ballistic missile technologies are, after all, 1940's technologies by U.S. standards. Biological and chemical weapons technologies are even older and they are easier and cheaper to develop.

Second, most of these technologies are so-called dual use technologies; that is, they have legitimate civilian applications. This makes it difficult to restrict trade in them because we would be limiting the ability of developing nations to modernize. For example, much of the technology needed for a ballistic missile program is the same as that needed for a space launch program. Chemicals used to make nerve agents are also used to make plastics and process foodstuffs. Moreover, a modern pharmaceutical industry could produce biological warfare agents as easily as vaccines and antibiotics.

A third reason for the increase is that individuals, companies, and in some cases countries facing stiff economic competition in legitimate business look for quick profits in illicit sales.

Fourth, Gerald Bull and the supergun he was building for Iraq illustrate another disturbing trend. Countries like Iraq are no longer satisfied with hand-me-downs from the larger powers. Instead, they want state-of-the-art weapons that will give them prestige as well as first-class capabilities. If this trend continues, and as budget reductions and arms control agreements limit our advances, we will increasingly see weapons in the Third World with technical capabilities that could challenge U.S. defenses.

Fifth, and finally, as some countries acquire weapons of mass destruction, their neighbors feel compelled to develop comparable capabilities for reasons of politics, pride, and deterrence.

Now, let me review the threat in some detail. Only China and the Commonwealth of Independent States, the former Soviet Union, have the missile capability to reach U.S. territory directly. We do not expect increased risk to U.S. territory from the special weapons of other countries in a conventional military sense for at least another decade. However, the threat to Europe, the Middle East, and Asia is real and growing.

U.S. or multinational forces deployed abroad could face an increased threat of air-delivered nuclear weapons before the end of the decade. Several countries now have missiles and rockets that could carry nuclear warheads, and others are likely to field some ballistic missiles with nuclear warheads in coming years. If any of those countries could acquire even a few nuclear warheads, it could soon become a nuclear threat.

Most of the major countries in the Middle East have chemical weapon development programs, and some already have stockpiles that could be used against civilians or poorly defended military targets. Most countries have not yet equipped their delivery systems to carry weapons of mass destruction, but over the next decade many countries will, from North Africa through South Asia, if international efforts to curtail these efforts fail.

China and North Korea may sell other countries longer-range missiles and the technology to produce them. Countries with special weapons that succeed in buying these missiles will further expand and accelerate the special weapons arms race already underway in the Middle East and South Asia.

Now, let me turn to the CIS, the Commonwealth of Independent States. The decade of the 1990's is just beginning, but we already have a new dimension to the proliferation problem. The breakup of the Soviet Union threatens the stability of Moscow's centralized command and control system, and threatens to unleash technologies and materials that had been carefully controlled.

Russia and the other new republics face multiple internal crises—the possible collapse of authority, potentially large-scale civil disorder, and the unraveling of social discipline—while they still have about 30,000 nuclear weapons, the most powerful of which are aimed at us.

Moscow's centralized nuclear command and control system continues to function even as control of conventional forces begins to shift to the republics. Russian Federation President Yeltsin assumed control of CIS strategic nuclear forces from Gorbachev on Christmas day. Under current and foreseeable circumstances, we

believe the new National Command Authorities will be able to maintain effective control over their nuclear arsenal.

However, this elaborate and centralized system was designed to rely in part on professional integrity. As we watch the breakup of the center and the military, we must worry about the growing dissatisfaction of military personnel, including those responsible for guarding, operating, and maintaining nuclear weapons.

Traditionally, the Soviets had three nuclear briefcases. They were held by the President, the Minister of Defense, and the Chief of the General Staff. Today, there appear to be only two. Interim Commander-in-Chief of Commonwealth Armed Forces, and formerly Minister of Defense, Shaposhnikov said two weeks ago that he and President Yeltsin are the only ones with nuclear briefcases. The third is apparently in reserve.

We are still looking to see how Russia and the other republics will sort out the ownership of nuclear weapons and what procedures they establish to maintain and control them. The leaders of Kazakhstan, Byelarus, and Ukraine also have said that they want to return the nuclear weapons that are on their soil to Russia for dismantlement and destruction. They also have said that they want to share nuclear decisionmaking with Russia, but the extent to which they can influence decisions is not yet clear. In particular, building a nuclear command and control system that allows leaders outside Moscow to participate in the timely execution of orders will be difficult.

With respect to the capability to dismantle nuclear weapons, Russian officials have claimed that they can dismantle about 1,500 weapons per year. We have a moderate degree of confidence that they can do this, but at that rate it would still take well over 10 years to dismantle the 15,000 weapons they say they will destroy.

Turning to the proliferation question resulting from the Soviet breakup, we face a range of troubling possibilities, potentially including the sale of materials, weapons, or a brain drain to weapons programs abroad. In response, an international effort is taking place, led by the United States, but with the cooperation of many Europeans and the republics of the CIS, which clearly should mitigate the danger.

Boris Yeltsin and most of the other republic leaders are serious about preventing this and have announced policies to prevent this hemorrhage. Under Secretary of State Bartholomew is in Moscow as we speak recommending concrete actions and offering U.S. assistance.

We expect to see attempts by the former Soviet Union's defense industrial sector to market dual-use technologies of concern, notably for nuclear power and space launch vehicles. For example, the space organization Glavkosmos has reorganized to market a joint Russian-Kazakhstan space launch service, and Russia is offering SS–25 boosters as space launchers. Other nations with ambitious weapons development programs are certain to try to exploit the opportunity to get some of the world's most advanced weapons technology and materials at bargain basement prices.

We have seen a number of the press reports that Soviet nuclear materials have already been offered on the black market. Thus far, we have no independent corroboration that any of these stories are

true, and all that we have been able to check out have turned out to be false. Because of the great demand for these materials, the difficulty in determining the authenticity of nuclear materials, and the widespread availability of small quantities of uranium and plutonium in research facilities, we can expect to see many scams and hoaxes. This will make our job even more difficult.

Smuggling in Central Asia and the Transcaucasus is an ancient and highly developed art. Because these republics are near states that are deeply interested in acquiring special weapons, traders no doubt are acutely aware of the potential value of sensitive materials and technologies, and would be eager to act as middlemen.

Even when the KGB and the armed forces were controlling the borders in these areas, local communities conducted largely uncontrolled cross-border trade. Now, the borders are under local control. Despite the rules of the Commonwealth, some republics or regions may become more closely aligned with their non-CIS neighbors. Trade that earns hard currency is likely to be encouraged, and inhibitions against trade in special weapons materials or equipment may weaken and disappear.

We are closely watching for a brain drain from the Soviet republics. We have seen these same Soviet scientists on television and watched those reports. The sheer number of people associated with Soviet weapons programs gives some idea of the potential size of the drain. We estimate that nearly one million Soviets were involved in the nuclear weapons program in one way or another, but probably only a thousand or two have the skills to design nuclear weapons.

A few thousand have the knowledge and marketable skills to develop and produce biological weapons. The most worrisome problem is probably those individuals whose skills have no civilian counterpart, such as nuclear weapons designers and engineers specializing in weaponizing CW and BW agents. They were well treated under the Soviet system and will find it hard to get comparable positions now.

Most Soviet scientists who want to emigrate probably would prefer to settle in the West, but the West probably cannot absorb them all. Based on Soviet scientific collaboration in the 1980's, Cuba, India, Syria, Egypt, and Algeria are most likely to have the contacts and resident scientists to assist emigrating Soviets. There presumably is a point beyond which Russia and the other republics would want to staunch the outflow of talent, but scientists need not leave at all to pass on specifications or advice to agents of another country.

I should add that we may also see leakage of highly sophisticated but less controlled conventional military technologies and weapons from the former Soviet republics. Technologies of concern include stealth, counterstealth, thermal imaging, and electronic warfare. Weapons could include fuel-air explosives, precision guided munitions, and advanced torpedoes.

As a result of the proliferation of new weapons technologies, conventional or special, I expect that foreign military capabilities will expand and become considerably more complex to deal with. Some, we will not have anticipated. The range of conditions under which these capabilities might be used is much wider than we were accus-

tomed to in the past when the main threat was from the Soviet Union and we understood it well. Keeping track of burgeoning foreign military capabilities will be one of our greatest challenges in the years ahead. The potential for technological surprise in the Third World is growing as some international restrictions on foreign access to dual-use technologies are loosened.

Having discussed proliferation generally and in the CIS, I will now review the problem region by region. In the Middle East, Iraq is still a great challenge. Saddam has built formidable programs in all four areas of weapons of mass destruction. The U.N. Special Commission has worked diligently to eliminate Saddam's programs, but as the episode in the parking lot in Baghdad illustrates, Saddam digs in whenever the Commission gets close to something he particularly wants to protect.

There is no question that Desert Storm significantly damaged Iraq's special weapons production programs. It will take varying lengths of time for Baghdad to recover. Nuclear weapons production is likely to take the longest time. Although the technical expertise is still there, much of the infrastructure for the production of fissile materials must be rebuilt. However, we measure the time required in a few rather than many years.

The chemical weapons production infrastructure also was severely damaged and will have to be rebuilt. Much of the hard-to-get production equipment was removed and hidden before the bombing started, however, and would be available for reconstruction. If U.N. sanctions are relaxed, we believe Iraq could produce modest quantities of chemical agents almost immediately, but it would take a year or more to recover the CW capability it previously enjoyed.

The biological weapons program also was damaged, but critical equipment for it, too, was hidden during the war. Because only a small amount of equipment is needed, the Iraqis could be producing BW materials in a matter of weeks of a decision to do so.

We believe a number, perhaps hundreds, of Scud missiles and much Scud and Condor production equipment remain in Iraq. The time and cost of reviving the missile program depend on the continuing inspection regime, and then on how easily the regime can get critical equipment from abroad.

In our opinion, Iraq will remain a primary proliferation threat at least as long as Saddam Hussein remains in power. The cadre of scientists and engineers trained for these programs will be able to reconstitute any dormant program rapidly. Saddam clearly hopes his intransigence will outlast the international will for sanctions. Fortunately, international resolve to maintain those sanctions, including U.N. inspections, remains strong. As long as that is so, Saddam will be severely hampered from rebuilding his weapons program.

If the Iraq government ever becomes serious about giving up its capacity to produce weapons of mass destruction, as mandated by U.N. Resolution 687, we should see a full accounting for its past actions. This would include an inventory of Iraq's nuclear materials; a description of its missile and warhead production infrastructure; admission that Baghdad did indeed have an offensive biological weapons program, including the production and weaponization of biological agents; and, most important, an accurate list of the

critical personnel and the programs and outside suppliers so the U.N. can better monitor any cessation of prohibited activities.

Iraq is not our only concern in the Gulf and the Middle East. Iran has embarked on an across-the-board effort to develop its military and defense industries. This effort includes programs in weapons of mass destruction not only to prepare for the potential re-emergence of the Iraqi special weapons threat, but to solidify Iran's preeminent position in the Gulf and Southwest Asia.

Iran continues to shop Western markets for nuclear and missile technology, and is trying to lure back some of the technical experts Tehran drove abroad in the 1980's. Increasingly, however, Iran has turned to Asian sources of military and technical aid, and it probably hopes that its contacts in Kazakhstan will allow it to tap into Soviet weapons technology. Tehran's principal sources of special weapons since the Iran-Iraq war have been North Korea for long-range Scuds and China for battlefield missiles, cruise missiles, and nuclear-related technologies.

China, for example, is supplying Iran with a miniature neutron source reactor and an electromagnetic isotope separator. This equipment has legitimate peaceful purposes, but Iranian public statements that it should have nuclear weapons suggest they intend otherwise. Iran also says it has a right to chemical weapons in light of Iraq's use of chemical weapons against them, and we believe it has exercised this option. We also have good reason to believe that Iran is pursuing collaborative arrangements with other would-be special weapons developers in the region.

Syria, too, has turned to North Korea. Because Damascus has been unable to get SS–23's from the Soviet Union and now the CIS, it acquired an extended range missile from Pyongyang. It also appears to be seeking assistance from China and Western firms for an improved capability with chemical and biological warheads. In the nuclear area, Damascus is negotiating with China for a reactor.

Other countries in the region seem to have decided recently to strengthen their own deterrent and defensive capabilities as a hedge against long-term threats from Iran and a resurgent Iraq.

The Israelis continue to invest in the development of the Arrow anti-tactical ballistic missile and test and maintain their own ballistic missile force. The Saudis are expanding their CSS–2 missile support facility, and Egypt has a missile production facility that could begin operations at any time.

In North Africa, despite international outcries, Libya's CW program continues. We estimate that the production facility at Rabta has produced and stockpiled as many as 100 tons of chemical agents. The Libyans have cleaned up the Rabta plant, perhaps in preparation for the long-awaited public opening of the facility to demonstrate its supposed civilian pharmaceutical purpose. But they have yet to reconfigure the plant to make it incapable of producing chemical agents.

Even if Rabta is closed down, the Libyans have no intention of giving up CW production. There have been a number of reports that Libya is constructing another chemical weapons facility, one they hope will escape international attention.

For several years, the Libyans have made a concerted effort to build a BW facility, but this has not progressed very far. We be-

lieve they need assistance from more technically advanced countries to build one and make it work. Persistent efforts to deny Libya access to nuclear, biological, and delivery system technology have undoubtedly stalled these programs to a great extent by forcing Qadahfi to turn to less advanced technology and less trustworthy sources available in gray and black markets in the developing world.

Libya has by no means abandoned its long-term goal of extending its military reach across the eastern Mediterranean. Setbacks have limited it to the relatively short-range Scuds Libya now possesses. Both Russia and China have rejected Libyan purchase requests. Tripoli is now shopping diligently throughout the world for an alternative source, and recent South Korean allegations suggest Libya has found a seller in North Korea.

As you know, Algeria is nearly finished building a nuclear reactor it bought from China. Both the Algerians and the Chinese have assured us the reactor will be used for only peaceful purposes, but we are concerned about the secrecy of the original agreement and the lack of inspections.

According to the International Atomic Energy Agency, Algeria finalized an agreement with the IAEA to safeguard the reactor. The IAEA Board of Governors will review the agreement at its meeting in February. We hope this will lead to a quick inspection and allay some of our concerns.

In South Asia, the arms race between India and Pakistan is a major concern. Not only do both countries have nuclear weapon and ballistic missile programs, they recently have pursued chemical weapons as well. These programs are particularly worrisome because of the constant tensions and conflict in Kashmir.

We have no reason to believe that either India or Pakistan maintains assembled or deployed nuclear bombs, but such weapons could be assembled quickly and both countries have combat aircraft that could be modified to deliver them in a crisis. Both have publicly agreed to certain confidence-building measures, such as not attacking either other's nuclear facilities, and we are hopeful that the continuing dialogue will bear fruit.

The United States continues to oppose exports of space launch vehicles or advanced computer technology to either country by the CIS, China, or MTCR partners because of the high probability that such technology would end up in a nuclear long-range ballistic missile program.

North Korea's programs are our most urgent national security threat in East Asia. North Korea has invested heavily in the military and depends on arms sales for much of its hard currency earnings. It has produced and sold copies of the Soviet Scud missile to several Middle Eastern countries. It has also modified its Scuds, giving them longer range than Iraq's, and has sold them to Iran and Syria. Pyongyang is not far from having a much larger missile for sale, one with a range of at least 1,000 kilometers—enough to reach Osaka, Vladivostok, or Shanghai if deployed on North Korean soil.

The North's nuclear program is our greatest concern. Pyongyang has an entire infrastructure that can support the development of nuclear weapons, from the mining of the uranium to the reprocess-

ing of reactor fuel to recover plutonium. It has constructed two nuclear reactors whose sole purpose is to make plutonium. One of these reactors has been operating for four years, and the second, much larger reactor will start up this year.

In December, North and South Korea negotiated an historic agreement in principle for a nuclear-free Korean peninsula. Each side has committed itself, and I quote, "not to test, manufacture, produce, receive, possess, store, deploy, or use," end quote, nuclear weapons. Both sides also agreed not to have nuclear reprocessing or uranium enrichment facilities. Verification, to include on-site inspections, remains to be worked out, however.

We believe the significance, and indeed the value, of the North-South nuclear accord can be judged only by the inspection regime Pyongyang ultimately accepts. North Korea has not been forthcoming in this area until very recently. It signed the Nuclear Non-Proliferation Treaty back in December 1985, and was thereby obligated to declare and place all nuclear facilities under safeguards. Pyongyang, however, only this month finally pledged to sign a safeguards agreement by February.

We remain concerned with how the North will interpret its responsibility to permit IAEA inspections. The North has not yet even admitted the existence of, much less declared, its plutonium production reactors and reprocessing facility at Yongbyon nuclear research center. It has consistently missed deadlines for completion of the agreement procedures and several times has tacked on additional conditions to acceding to the agreement.

Overall, our concerns about the North's nuclear effort extend well beyond the peninsula. We worry not only about the consequences for stability in Northeast Asia if the North acquires nuclear weapons, but also about the possibility of Pyongyang putting these weapons and nuclear technology into the international marketplace.

As for North Korea's neighbor, China, it has made several important public commitments that suggest an intention to honor international agreements on both missile and nuclear proliferation. Beijing is developing two solid fuel short-range ballistic missiles, the M-9 and M-11, that exceed the range and payload limits of the Missile Technology Control Regime; that is, a 500-kilogram payload and a range of 300 kilometers. It has offered to sell these missiles in the past, but indicated that its conditional commitment to abide by MTCR guidelines and parameters would apply to both missiles.

Last August, China pledged that it would sign the NPT, and its National People's Congress has now ratified the agreement. China is now obligated to require all recipients of its nuclear equipment to adhere to IAEA safeguards. This development is important because China has long been a supplier of nuclear technologies in the Third World.

While China has claimed that all such exports were for peaceful purposes, it has not always required recipients to adhere to safeguards. Despite its accession to the NPT, we remain concerned that Beijing could claim existing contracts are grandfathered and therefore exempt from IAEA safeguards.

Unhappily, I must report that commercial enterprises in the West continue to sell sensitive technology to countries developing

weapons of mass destruction. Some of this trade goes through front companies or third countries to innocuous-sounding consignees. Most of the sales are of equipment that has some legitimate end use, justifying the claims of exporting firms and export control authorities that they had no way of knowing a particular shipment was designed for a special weapons development program. In all too many cases, however, exporters knew very well who they were dealing with. They may even have sought the business and collaborated with the purchaser to evade export regulations.

Libya, Iran, and India, for example, are continuing to obtain advanced materials such as specialty steels, high-purity graphite, and composite materials for rocket motors from West European suppliers. The sale of precision machine tools with missile and nuclear applications are of particular concern.

There is good news on the non-proliferation front, much of it the result of United States leadership. Since the Gulf war and revelations about Saddam Hussein's programs, many responsible countries have expanded export control laws, increased penalties for violators, and stepped up enforcement regimes.

International organizations and agreements, such as IAEA and the Missile Technology Control Regime, have taken on a new life. The governments of several key countries have assured our State Department that they have abandoned nuclear weapons or ballistic missile programs. For example, South Africa has signed the NPT, and Argentina and Brazil have taken real steps away from their nuclear options. South Korea and Taiwan, who once had entertained the thought of developing nuclear weapons in the past, have both walked away from this option. The recent reunification talks with North Korea have shown that the South is serious in its efforts to achieve a nuclear-free peninsula.

Israel has publicly announced that it will abide by the MTCR guidelines and, according to the Israeli press, will not cooperate any longer with South Africa on ballistic missile development. Brazil has announced its space launch program has been placed under civilian control, and the Argentine government has said that it is investigating the suspended Condor II program.

Although the members of the MTCR and the Australia Group, the regime to control chemical and biological weapons technology, have been actively adding new members to their rosters and refining specifications of equipment and materials covered, there are limits to what we can expect multilateral control regimes to accomplish. Some countries will never find it in their interest to join. Even membership is no guarantee of good behavior. Trade and other incentives conditioned to membership can force some countries to accede even though they have little intention of enforcing the regulations.

Despite the greater awareness and interest in doing something about the proliferation problem, the greater availability of relevant materials and technologies, the difficult economic times in many supplier countries, and enduring regional animosities, suggest that the problem will get worse.

I believe American intelligence plays a critical role in this non-proliferation effort. As I said in my opening remarks, proliferation is a top priority of the intelligence community. We recently formed

a Non-Proliferation Center with senior officials from several agencies to better formulate and coordinate intelligence actions in support of U.S. Government policy. This Center will coordinate the extensive and detailed information that all intelligence community components provide to arms and export control negotiators and to technical experts throughout the Government. We are continuing to strengthen and add resources to this effort.

As the foregoing suggests, we have accumulated considerable information. At the same time, we are aware of our shortcomings. For example, while we correctly warned of Saddam's nuclear program, we clearly underestimated its scope and pace.

We also have worked closely with the State Department, which in turn has worked closely with the IAEA and the U.N. Special Commission in implementing U.N. Resolution 687, and we have and will, where appropriate, share intelligence with other countries working to stem the proliferation threat, including the governments of the new republics of the Commonwealth of Independent States.

In addition to supporting the efforts of the U.S. and other like-minded governments in stemming proliferation, we have a responsibility to defense planners to assess the status of special weapons programs abroad and to forecast dangers in the long term. We can hope that there will be no further transfers of special weapons or delivery systems to potential enemies. We can hope that the countries that have said they will abandon development programs will do so, and we can hope that illicit technology transfers will stop, but we cannot assume that they will. In fact, it is likely that those countries that have special weapons or those developing them will keep what they have and try to make progress surreptitiously.

Advances in special weapons are extraordinarily difficult to monitor. We will do everything we can to unearth and examine all relevant cases, and when we uncover dangerous developments we will present our findings to the decisionmakers in the administration and to the Congress.

In closing, I would like to say that non-proliferation efforts have had a positive effect. There is strong international support for both the MTCR and the Australia Group, and the level of attention to export controls among all civilized countries has never been greater.

Despite this, however, we have our work cut out for us. As this presentation notes, there are still disturbing trends. This message may be unpleasant and it may require difficult actions, but as I pledged to the House Defense Policy panel last month, we will continue to describe the world as it is, not as we or others would wish it to be.

I hope that these comments will serve as a useful overview. I would be happy to answer any questions that you have, Mr. Chairman, on the subjects I have covered today. I will answer all that I can, but I know that you recognize that much of our information on this subject is derived from sensitive intelligence sources and methods. To jeopardize these would jeopardize obtaining information in the future. Accordingly, when I believe answering publicly will endanger those sources, I would be happy to respond either in a closed session or for the classified record.

I would also add before beginning to take your questions that I am far from an expert on most of these matters and may well turn to my colleagues that I have with me here.

Chairman GLENN. I appreciate your broad overview of this whole situation. One of the first questions I would have is on one of your statements on the last page there, from the top of page 15 on your testimony: " * * * we have and will, where appropriate, share intelligence with other countries working to stem the proliferation threat, including the governments of the new republics of the CIS."

Are we sharing any intelligence information with the CIS intelligence people now?

Mr. GATES. No, sir, I don't think we are, but we are prepared to do so.

Chairman GLENN. Is that in the offing? Have we talked to them about this?

Mr. GATES. There have been some very preliminary contacts. I think that most of the discussion of this has taken place at the policy level up to this time.

Chairman GLENN. Are the Soviets going ahead now with new nuclear warhead development?

Mr. GATES. I think that their R and D programs are continuing, but, Gordon, do you want to——

Mr. OEHLER. Yes, they are continuing.

Chairman GLENN. Just identify yourself for the record here and then go ahead and use the mike there. Pull those mikes up close, incidentally. They are not very good; they are very directional.

Mr. OEHLER. My name is Gordon Oehler and I am the National Intelligence Officer for Science, Technology, and Proliferation. There is still some continuing, ongoing work, but it is at a much lower level, and the funding for these programs has been drastically cut and therefore the programs themselves have been retarded quite a bit.

Chairman GLENN. Well, I know it is hard to turn around big programs like that instantaneously. It is something that I think we should be watching very, very closely because it might signal a long-term intent. If those programs are not turned around as expeditiously as we think they should be, it would indicate perhaps an intent that we wouldn't like particularly.

How about in chemical weapons and biological weapons? Are their programs in developing those continuing?

Mr. GATES. We are beginning to see on the biological front, for example, that the new government in Russia takes much more seriously than apparently its predecessor our concerns about the continuing biological programs, and we are beginning to get some information that suggests that those programs are being turned off.

They are turning their attention on the chemical side to the destruction of chemical weapons problem. They now have, we estimate, something like 40,000 tons of agent, chemical agent. A good deal of that is old, represents a safety hazard, and they are working on technologies for its destruction.

Do you want to add anything to that, Gordon?

Mr. OEHLER. No; that is fine.

Chairman GLENN. How much do we know about and how good do we think their system is for coping with the problems of taking

weapons down, dismantling them, and disposing of the material? Do they have adequate systems to even do that? It is an enormous problem. It is not easy. We think you just destroy them, but you can't just destroy them like that.

Mr. GATES. No, sir.

Chairman GLENN. I got with the staff one day and was going through just what would be required for us to go ahead and say, okay, we are going to take down 10,000 nuclear weapons. Well, then you start going through the process of how you transport them, where you store it, what you do with the material after it is over. We have Pantex down there that can do work on this that everybody knows about, of course. Do we need more?

And then you talk about the Soviets, who probably have gone into the disposition problem less than we have, and you wonder how fast we are going to be able to get these things done. Do you have any estimates on those?

Mr. GATES. Not very fast, Mr. Chairman. As I indicated in the testimony, the Soviets themselves, or the Russians—and they have the only nuclear dismantlement facility in the CIS—their people say they have the capability to dismantle about 1,500 warheads a year. They claim they are going to take down about 15,000, so that is 10 years for that amount and that is half their stockpile. I would say, based on the variety of problems that they are having internally right now, that 1,500 warheads a year is probably an optimistic assessment on their part.

On the chemical side, they are just beginning to investigate the technologies for the destruction of chemical weapons, and we estimate that it would take them several years to develop those technologies and then a few more years to actually carry out the destruction of the weapons. So it is not a near-term solution at all.

Chairman GLENN. I was concerned enough about this that I have asked OTA [congressional Office of Technology Assessment] to look at this as to what is involved with taking down thousands of nuclear weapons and trying to dispose of them or make them safe, or store, or however we are going to do this. It is going to take them some time to do the study. They have agreed to do the study, and I am sure you will be interested in their work on this, too, as time goes along, but it is something that is not easy. We think that, you know, the danger is going to be over right now, and yet the weapons are out there still targeted, still there. They are not going to be able to be pulled down for a lengthy period of time.

Let me get into the command and control problems here that we have all been concerned about during this transition period. You mentioned that you think there are two "footballs," or whatever, right now that are ready to go. With what you have known about their command and control in the past, is that adequate? How does it compare with ours?

Mr. GATES. Well, I think that what I can say in an unclassified forum—I am certainly no expert on our own system—but I think everybody is familiar with the football that accompanies the President. So what we are seeing is a situation in the CIS where the command has gone from the three that I indicated—the President of the then Soviet Union and the Chief of the General Staff and

the Defense Minister—to two, the President of Russia and the Commander-in-Chief of the CIS Strategic Forces.

We don't have any indication that there are any problems or concerns associated with this reduction from three to two. In fact, I think one of the things people have found reassuring just in the last few weeks has been the relative harmony with which the Commonwealth members have addressed themselves to the question of the disposition of nuclear weapons and the command and control of nuclear weapons.

They have got lots of differences on many issues, including the disposition of conventional forces that we have been reading about in the newspapers, but I think most of the people who are following this closely have been greatly encouraged by the level of responsibility that has been brought to bear by the leaders on this. So we don't really—I think we do not see that as a source of concern.

Chairman GLENN. What has concerned everybody, including some that have written about it in the press or on TV, and it concerns me, too, is whether a dissident military person off at some remote post where there are nuclear weapons—and whether it is in one of the four republics or wherever they might be—whether they have it within their capability to make a launch. If they would become a "Hunt for Red October" type dissident of some kind or other, they might launch one for whatever reasons.

Can you tell us whether it is possible for them to do that, or are these codes and interlocking codes and permissive links and PALs and all this sort of thing—permissive action links—are these sufficiently good that we don't need to worry about a single person launching something that would still be targeted at the United States?

Mr. GATES. Mr. Chairman, on an unclassified level, I would confine myself to saying that I think that the experts in our community do not believe that there is a concern about an unauthorized launch of any of the Soviet strategic systems or the tactical systems. If there is any concern at all, it is not about nuclear command and control, but rather the possibility that one or another of the older, much less sophisticated, very small tactical devices might be stolen or slip out of the control of the central authorities.

They are aware of this, and they are engaged in a major effort—or they are aware of this possibility and they are engaged in a major effort in consolidating the storage of these tactical nuclear weapons. They have, for several years, been consolidating these weapons and withdrawing them into fewer and fewer areas of the Soviet Union, and now they are working to bring all of them back into Russia where they can be controlled prior to their dismantlement.

So I would say that our confidence level is strong on command and control of strategic weapons, and we are further heartened by the measures that they are taking to strengthen their command and control over all of the tactical weapons as well.

Chairman GLENN. Well, I was talking primarily about the ICBMs and SLBMs, things like that. But you bring up the tactical and I was going to get to that, too, so I am glad you brought it up. On the tactical weapons, do they have the same control of codes and inter-

locking codes before those can be used? Or if those were taken by Kazakhstan or some place else where some of these are actually in their territory, could they be used without the coding having to come from Moscow?

Mr. GATES. On an unclassified level, Mr. Chairman, let me just say that we don't have perfect knowledge about this matter, but I would say that we have good confidence in their control of these tactical weapons as well in the manner that you describe. Now, I can give you a more detailed answer to that on a classified basis.

Chairman GLENN. All right, fine. Obviously, what I am leading up to is if we had some of the dissidents in some of those areas decide we are going to sell some of these things to Libya or to some place else, or to terrorists, it could be a very difficult situation for us, unless the links are set up in such a way that the weapon could not be used anyway.

Now, I don't know whether they have control over their tactical nukes to that extent or not, but that is a pretty exotic system. What can you say about that, anything?

Mr. GATES. Well, I would say that we have good confidence in their command and control, including over their tactical nuclear systems. Now, obviously, any country that has 30,000 nuclear warheads, you cannot rule out the possibility of one or another being stolen by some military officer or dissident on the inside, but we——

Chairman GLENN. Could they use it if they stole it? That is the question.

Mr. GATES. I think that in most cases that would be very difficult, but I would be happy to reply on a classified basis.

Chairman GLENN. Okay. How about the submarines? We have had the subs. I think they are on sort of restricted cruise right now, as I understand it. At least, that is what has been in the news. Are submarines managed the same way as their deployed tactical nukes or are they under the same kind of control as the ICBMs?

Mr. GATES. They are under the same strong control as the ICBMs, Mr. Chairman. I think Dr. Oehler wanted to add something to the previous answer.

Chairman GLENN. Sure. Doctor?

Mr. OEHLER. The tactical nuclear weapons are, of course, somewhat more of a concern because they are smaller and they don't have associated with them all of the electronic controls. If an advanced nation—that is, a nation who knew something about nuclear weapons—got a hold of one of those, they could perhaps figure out how to use it. But even if a developing nation who doesn't understand it very well were to get a hold of it, it certainly would be a source of nuclear materials, and therefore would be of great concern to us even if they couldn't at that time detonate it.

Chairman GLENN. So someone who knew something about this kind of coding could probably work around the coding over a period of time and make the weapon usable?

Mr. OEHLER. For the smaller tactical nuclear, yes.

Mr. GATES. But I think what he is basically saying is the more likely use would be to extract simply—not to detonate it, but to extract the fissile material from it.

Chairman GLENN. Material out of it, yes, okay.

On the Soviet command and control system, how difficult is it to re-target? Can that be done in minutes, hours, days? What is needed in that area?

Mr. GATES. I think that that would vary from weapons system to weapons system, Mr. Chairman. We would be pleased to give you a classified answer on that.

Chairman GLENN. All right, good. Now, are there still tactical nuclear weapons in Eastern Europe?

Mr. GATES. I don't believe there are.

Chairman GLENN. They have withdrawn them all into the former——

Mr. GATES. I will have to go back and check, but I think they have all been withdrawn.

Chairman GLENN. And as far as we know, only four of the republics now in the new CIS have nuclear weapons within their borders, is that correct?

Mr. GATES. That is correct.

Chairman GLENN. Yes, okay, and how confident are we on that that there are not some out in some other places that we don't know about? Are we pretty confident on that?

Mr. GATES. Well, again, our independent means and what we are being told by the CIS officials match up. Whether that is perfect information or not, I think we can't know.

Chairman GLENN. In what was formerly the Soviet Union, were nuclear weapons which were retired from active duty dismantled or were they destroyed? How did they handle that?

Mr. OEHLER. We don't know, to be honest with you. Probably, earlier on the materials were taken from them to make new nuclear weapons.

Chairman GLENN. Recycled, yes. Are they keeping up with things like we are trying to keep up with? Are they continuing with their tritium production, for instance, that gives us a problem in this country because of its 12.5-year half-life?

Mr. GATES. They say that they are continuing the tritium production. They announced in 1989 that they would no longer produce highly enriched uranium for weapons. They indicated that they would close down their plutonium production by the year 2000. We know they have closed seven of their plants; there are several more still operating.

Chairman GLENN. Are there any CIS nuclear arms surface ships currently on patrol?

Mr. GATES. I will have to take that question, Mr. Chairman. I don't know the answer.

Chairman GLENN. And as far as the submarines, do we have accurate information on what their deployments are now? Are they still off our coast, for instance?

Mr. GATES. No, sir, I don't think they are. I think most of their ballistic missile submarines are, in fact, in port.

Chairman GLENN. A recent New York Times article cited CIA concern about recruiting attempts by certain Third World nations, Libya being particularly named, of former Soviet military experts. You addressed that very briefly in your statement. Could you

elaborate on that? Is such a recruitment effort occurring by other nations and have they been successful at all as far as we know?

Mr. GATES. We have heard rumors, Mr. Chairman, that there are such recruitment efforts going on. As I indicated earlier in the testimony, we have seen the same statements by some of the Soviet scientists that there have been recruitment attempts. We don't have any independent corroboration of any of that.

I would say, though, that this is the area that causes us the greatest concern, more than a loss of materials or weapons and that sort of thing, and that is this so-called brain drain problem. As living conditions in republics get worse and some of these people have no alternative employment or see their families in desperate circumstances, they may be induced to emigrate to some of these countries or they may remain in place and, in exchange for cash, provide information.

This is, again, a problem that I think that Under Secretary Bartholomew is addressing with the republic leaders right now in Moscow. As I say, we don't—part of the problem with some of these scientists in these research centers is that they are at the end of a very long supply network. They are in remote areas and they fall into the same category as the military and hospitals and others, those that have been in the past dependent on the centralized supply system for their day-to-day supplies of food, and so forth. It is precisely these networks that are breaking down the fastest in the Soviet Union.

So I would say that of all of the possibilities that we have addressed here with our discussion of command and control, and so forth, it is this concern about the scientists and their future, particularly given the large numbers of them, that concerns us the most.

Chairman GLENN. What are your views as to who is the most likely nuclear proliferator around the world, some place like North Korea at this point, or the Soviet Union? In other words, we read in the papers from time to time about Cuba, Iran, Iraq. Pakistan's development, of course, we have known about for a long time. Is the likely information supply point more likely to be some place like North Korea now, as they develop their program, more than the Soviet Union?

Mr. GATES. Well, as I indicated in the statement, I think our best guess, and it is really no more than that, would be the first place these people would turn would be to those countries where there have been the greatest contacts between scientists or among scientists in these different areas. I think I mentioned Cuba and Algeria and Syria and two or three others along those lines, where there have been over the past decade or decade-and-a-half a fair number of these contacts.

Chairman GLENN. You concentrated in your statement more on the nuclear end of things, which we are certainly concerned about. Could you go through some of those same countries and give us a little information on what their chemical and biological capabilities are, because that, to me, is almost more important than the nuclear? I won't say it is more important, but you get the same effect eventually, perhaps, out of a biological weapon. You can almost

have the same effect you can out of a nuke; it just doesn't occur quite as fast.

The developing countries, if they were looking to have a weapon of mass destruction, it seems to me it is far more likely at this point to be developments along the biological or chemical, particularly biological line, though, which are much easier for them to get.

I know we had Judge Webster here one day testifying a couple of years ago, and he sat where you are sitting and I asked him, if you wanted to set up a biological plant or a chemical plant, what would be the size of the area that you would need. And he turned to one of the people he had brought along with him, and I think the reply was it could be in an area about the size of this hearing room, which indicates the difference in level of technology, also, as well as just the space. So, that makes your job in intelligence, of course, far more difficult to find that sort of thing.

What nations are likely to be the biggest proliferators of chemical and biological weapons?

Mr. GATES. I would say that, acknowledging North Korea as one, that in broad terms the problem is focused in the region from North Africa to Southwest Asia, and there are a number of countries in that area that we know have worked on or are developing or have chemical weapons. I mentioned in the testimony where we have certain knowledge—Libya, Syria, Iran, and Iraq. There may be others as well.

Chairman GLENN. Is there any Soviet, or CIS now, cooperation with Iran in Iran's efforts to get nuclear weapons?

Mr. OEHLER. Not to my knowledge.

Chairman GLENN. Where are they getting their major information from? Are they developing it indigenously?

Mr. GATES. Yes, they could easily on the chemical side. That is the problem, as you have identified it, on both the chemical and the biological side. These weapons have been with us since the beginning of the century, and the technologies involved in mustard or sarin or some of those things are pretty primitive.

Chairman GLENN. How good a handle do we have on the Soviets' storage or their supplies and where they are stored for chemical weapons and biological weapons and what they are doing, particularly with biological?

Mr. OEHLER. Well, they have not admitted to having a biological weapons program. You remember we have accused them of having one because of the Svirdlovsk incident in 1979. But they have not made any statements on that. On the chemical weapons, of course, you know there is an agreement, a treaty with the United States, and they have declared their chemical facilities and have taken a number of steps to centralize them.

Chairman GLENN. Do we inspect those, or does IAEA? They don't inspect the chemical or biological——

Mr. OEHLER. It is not the IAEA, but it is a——

Chairman GLENN. A U.N. organization?

Mr. OEHLER. A unilateral, I believe, U.S.-U.S.S.R. treaty arrangement—or bilateral, pardon me.

Mr. GATES. We or the State Department can get back to you with a specific answer on that.

Chairman GLENN. All right, good. One of the difficulties you pointed out has been the difficulty in trying to get the free world's businessmen not to do business with countries that are trying to develop weapons of mass destruction. With the Germans, in particular, we have had a problem because they didn't have a law that would prevent their businessmen from exporting, and so some of them did that.

I talked personally to Helmut Kohl when he was over here once about this and he said that they—he told me he knew the question was going to come up and they were going to take care of this two weeks after he went back. He gave me a date when it was going to be before the Bundestag, and that it was going to be corrected so they would have that authority.

But I understand that what has happened is they have had a problem with some of their civil liberties people, and so on, that they didn't want to put these restrictions on. So some of the restrictions we thought were going to go on businesses over there just have not occurred yet. So some of the proliferation, while we are concerned about it coming out of places like the former Soviet Union and China and North Korea, or wherever—some of it is enhanced, certainly, by just the fact that we haven't had adequate export controls in places like Germany, and to some extent some of our own people in this country.

Mr. GATES. I would just mention in that connection, Mr. Chairman, I think that the Germans have, in fact, passed legislation that strengthens their export controls. But it is an interesting phenomenon that in the wake of the Cold War there is tremendous pressure around the world for easing export controls, not strengthening them, because most of those export controls in the past were aimed at the Soviet Union and the countries of Eastern Europe. They were not written or formulated in the first instance to apply to proliferation-related problems.

So other than where you have voluntary arrangements such as MTCR and the Australia Group, you are really beginning at the beginning in terms of a body of legislation in a variety of countries for having to deal with this kind of problem.

Chairman GLENN. Well, we have tried to deal government by government and tried to do things that way, and that is fine. I think it was a good effort, but I think it has not worked the way it should be working. I put in legislation (S. 1128) that has been—it was referred to the Foreign Relations Committee and it has now been marked up. I think it was 19 to nothing over there in their vote on it. It would take a little different approach and say that where we know that companies, whatever their nationality, are supplying materials like that and we disagree with that, we could restrict their sales and their business in this country, either Government or private. I hope we can get that passed. That would put some teeth in this, I think, and make some of these companies think twice.

Mr. GATES. One thing that has helped our capabilities from the intelligence standpoint on this, Mr. Chairman, has been the intelligence effort to monitor the implementation of the sanctions against Iraq. We have developed a variety of sources and approaches to dealing with these kinds of problems that I think we will enhance

our ability in the future to be able to help the policymakers in terms of making demarches or doing business with foreign governments or companies that may be involved in violating either sanctions or export controls.

During the war we came up with the material for something like 1,000 demarches of violations of the sanctions against Iraq. In the process of doing that, we also developed some new procedures in terms of how we can make intelligence information available to policymakers so that they then can use it with foreign governments.

Part of the problem we have had in the past has been taking intelligence information and making it available in a way that can be used with a foreign government so that they have some specifics in hand. For example, it is not good enough just to go to them and say that one of your companies is involved in a violation unless you can say what the company is.

During the period leading up to the war with Iraq and during the war and subsequent to it, we were able to develop information that basically allowed us to say we not only know this country, but this company, and sometimes these individuals. And so I think our ability to support that kind of an effort has been improved substantially over the last year.

Chairman GLENN. You keep lists of firms that are doing the nuclear trafficking, then?

Mr. GATES. Yes, sir.

Chairman GLENN. Yes, all over the world as best you can?

Mr. GATES. We are watching.

Chairman GLENN. All right, good. Well, that would fit in perfectly with the legislation I am talking about, if we wanted to really clamp down on this.

With regard to Pakistan, which countries have been the key suppliers of Pakistan's nuclear programs?

Mr. GATES. That is a long list, Mr. Chairman. There have been a variety of countries that have provided support to Pakistan. I think we might be able to provide a list on a classified basis.

Chairman GLENN. Okay, good. Would there be a list available that could be provided to us of the companies, specifically?

Mr. GATES. Let me check and see.

Chairman GLENN. All right, fine.

Mr. GATES. If we have it, we might be able to do that on a classified basis.

Chairman GLENN. All right, good. Tension seems to have eased somewhat between Pakistan and India over the past several months, but it doesn't lessen my concern about both countries' efforts in the nuclear area. Are these countries both stockpiling nuclear weapons now? Is a South Asian nuclear arms race underway? Have they both gotten to the point of stockpiling existing weapons? Maybe they are not all put together, but they could be within a matter of hours or days.

Mr. GATES. I am certainly far from expert and I will defer to Dr. Oehler, but I think that the view of our people is that they do not actually stockpile the weapons, for safety reasons. It is our judgment—one that we gave to the President in the summer of 1990—that we could no longer certify or could no longer provide informa-

tion that suggested Pakistan did not have or possess a nuclear device. But let me defer to Gordon on that.

Mr. OEHLER. I think that it is our judgment that both countries have all of the parts or can make the parts on very short notice, and so we are very careful of stating it that way. They could have nuclear devices in a very short period of time, but we believe that they would not want to assemble them, for safety reasons.

Chairman GLENN. How about delivery systems? Is there any evidence that Pakistan converted F-16s for possible nuclear delivery use?

Mr. GATES. We know that they are—we have information that suggests that they are clearly interested in enhancing the ability of the F-16 to deliver weapons safely, they don't require those changes, I don't think, to deliver a weapon. We could perhaps provide some additional detail in a classified manner.

Chairman GLENN. Okay. As to a delivery system?

Mr. GATES. And precisely what they might be interested in doing to enhance the F-16.

Chairman GLENN. Okay. Well, there were rumors for some time about the—and some of these were in the press—about the possible conversion of F-16s for delivery use, so we would like to get that information if we could.

Mr. GATES. Yes, sir.

Chairman GLENN. As I understand it, we sent demarches to Turkey about their cooperation with Pakistan's nuclear program. Can you tell us whether those were sent or not and what the results were?

Mr. GATES. I would have to check on that, Mr. Chairman. We can get that for you.

Chairman GLENN. All right. Is Pakistan cooperating with Iran on any weapons of mass destruction as far as you know?

Mr. GATES. We have heard rumors to that effect, Mr. Chairman, but we don't have any independent corroborating evidence of it.

Chairman GLENN. Does Iran have any undeclared or unacknowledged nuclear facilities or materials?

Mr. OEHLER. Iran?

Chairman GLENN. Iran.

Mr. OEHLER. Iran has a number of nuclear facilities where they are doing research, which, of course, they claim is for peaceful purposes.

Chairman GLENN. But as far as weapons production?

Mr. OEHLER. They certainly don't have any nuclear weapons production facilities.

Chairman GLENN. Okay. As somewhat of a side issue here, do we have any information about the whereabouts of the Stingers we supplied to the Mujahedin during the Afghanistan war? There were rumors that those had eventually gotten to Iran and Tunisia and that terrorists might be in possession of some of them. Do we have any new information on that?

Mr. GATES. I think of all the Stingers that were provided, there really has been quite good command and control of those. We do have one incident that happened several years ago in western Afghanistan in which a party of Mujahedin were ambushed, and we think that some Stingers were taken at that time. We have heard

these stories about Stingers being available for sale on the black market. We have never been able to confirm any of those stories.

Chairman GLENN. How about China's cooperation with Iran? Is there a cooperative effort there with regard to nuclear technology?

Mr. GATES. Well, there clearly is a cooperation on nuclear technology that they both claim is for peaceful purposes. I think I mentioned that they sold them one isotope separator. Do you want to add anything?

Mr. OEHLER. And there are some others as well, but in all of the sales, clearly, China and Iran could claim it to be for peaceful purposes. Our concern is, of course, that these same pieces of equipment could be used to develop an infrastructure for a nuclear weapons program.

Chairman GLENN. Now, there was supposedly considerable Chinese cooperation with Pakistan in getting their program going, and visits back and forth with nuclear scientists. Is that still going on?

Mr. OEHLER. Well, Pakistan and China have signed a treaty, an exchange agreement, for peaceful purposes, sharing information on nuclear energy.

Chairman GLENN. Yes, but this goes back several years, what I am talking about, where the Chinese nuclear scientists were spending a lot of time in Pakistan, as I understand it.

Mr. GATES. Let me check on that for you, Mr. Chairman.

Chairman GLENN. All right, good. Japan is headed toward really becoming a plutonium giant. I disagreed with the agreement we made with Japan which gave them the right to ship plutonium back and forth to England, and so on, and we made that agreement for a 30-year period, which I thought was unnecessary, and it just lets the plutonium flow almost freely around the world.

The Japanese Atomic Energy Commission has estimated it will need to import some 30 tons of plutonium for its energy program. Along with these imports come worry both about the transport of this material and possible other uses for it once it reaches Japan.

Now, given the huge size of Japan's nuclear program, what can you tell us about Japan's protection of this and what they are doing with it? I don't think there is an indication that they want to go the nuclear weapons route yet, but they have enormous supplies of material there that are of some concern.

Mr. OEHLER. There is no question but what Japan has a very well-developed nuclear power infrastructure, and that if they so chose to turn their knowledge into a nuclear weapons program, they could. But there is no evidence of any intention, and there is every evidence that they protect the materials very well.

Chairman GLENN. Yes. What we were concerned about originally when this agreement was made and we approved it was we approved it for material that originated in the United States. We were concerned that it was being transported with very little guard, very few guards involved, and could possibly be stolen or come under the control of terrorist groups or something like that, which could be a bad situation.

According to the head of German intelligence, Conrad Porsner, some Middle East states will have nuclear, chemical, and biological weapons in 10 years if they continue to acquire armaments. These nations included, by his statement, Iraq, Iran, and Syria.

THE REUTER LIBRARY REPORT

(December 2, 1991, Monday BC cycle)

Headline: Iran able to make nuclear arms by 2000, German spy chief says.
Dateline: Bonn, Dec 2.
Iran may be able to build nuclear weapons by the year 2000, the head of Germany's foreign intelligence agency BND said in an interview published on Monday.
BND chief Konrad Porzner told Die Welt newspaper that Iran was keeping open the option of launching a programme to make uranium and plutonium bombs.
"There is at present no proof of production, but Iran will be capable of building nuclear weapons by 2000 if its armament activities continue as they are doing," he said.
Porzner said that if present trends continued, many countries would have nuclear, biological and chemical weapons in less than 10 years.
He said that Iran may have got hold of the plans for a chemical weapons plant at Rabta in Libya and was apparently buying parts that would enable it to build a similar one.
The United States and Germany alleged in 1989 that the Rabta plant outside Tripoli was aimed at producing poison gas, but Libya says it was designed to make medicines.
Porzner said Iraq could return to its pre-Gulf War level of weapons development in two years if it was not closely watched.
He added that Syria was improving its missile capability and building a plant to produce Scud missiles with North Korean help.
Third World countries were working closely together to improve their missile technology, with North Korea particularly active.
"Countries are putting themselves into a position where they can become autonomous in industrial policy and independent of foreign supplies," he said.

Porsner claims the chief supplier of material has been North Korea. He says further that if Iraq is not strictly controlled, it will reachieve its former technological standard within about 2 years. He also says that Iran will be able to build a nuclear weapon by 2000, and Syria already has poison gas factories.

Would you comment on those remarks, and do you agree with his assessment?

Mr. GATES. I don't think we have any reason to disagree with that overall assessment.

Mr. OEHLER. That is correct.

Chairman GLENN. And that is coming basically from North Korea, then?

Mr. GATES. They have gotten help from North Korea——

Chairman GLENN. That was his statement.

Mr. GATES [continuing]. But not just North Korea. The Syrians and others have gotten help from others as well.

Mr. OEHLER. The North Korean assistance in the Middle East has been, to date, primarily with ballistic missiles, not CW or anything else—nuclear.

Chairman GLENN. Back to Iraq again, what is the likelihood Saddam may already have nuclear materials for bomb-making? If he does, how long would it take under today's conditions for him to make one or more weapons? Do you think it has advanced to that point?

Mr. GATES. I think it is our judgment—and Gordon can correct me if I am mistaken—I think it is our judgment that he does not have the fissile material yet to assemble a nuclear device. Had the war not taken place, it is our view that he would have had a device probably by the end of this year. It is our view that if the sanctions

were lifted and he basically could run his program the way he did before the war that it would only be a few years before he would be back where he was.

Do you want to add anything?

Mr. OEHLER. That is correct. No, nothing additional.

Chairman GLENN. Yes. We were depending perhaps too much on IAEA and that 28 pounds of French weapons-grade material that was in there—as I recall, it was 28 pounds—that they checked every 6 months under normal IAEA inspections. We found afterwards that there was an enormous industrial or nuclear complex in Iraq that we really didn't know that much about.

How confident are we that we know everything about Iraq right now? Has all that now come out?

Mr. GATES. Well, we certainly know a great deal more than we did before the war, thanks to the intrusive inspections that have taken place. I think our intelligence is better, in addition to what the inspectors have uncovered. I think there have been a number of lessons learned out of all of this.

One is that this experience has been a real eye-opener for the IAEA and other international bodies themselves about what was going on even at a time when they were conducting inspections. I think, also, what we have learned, in terms of what I mentioned earlier about our own shortcomings, is that we had inadequate human intelligence about what actually was going on.

One of the reasons for some of the initiatives that I have described to strengthen our human intelligence capability is that, particularly with respect to chemical and biological weapons but also with respect to early identification of nuclear programs, it is very difficult for us to learn about them through technical intelligence means alone. We need human agents in positions to become aware of these programs early on and, since we need to improve in that area, I think that that is an important reason why, while we were aware of the fact of the Iraqi program, we underestimated its pace and scale.

Chairman GLENN. Well, every time we think that the U.N. inspectors have uncovered the last thing over there, or we hope they have uncovered it, something new seems to turn up. How confident are you that we now really have a handle on what Saddam Hussein's capabilities are and that we now know everything there is to know about that?

Mr. GATES. I would never say we know all that he had going on. For example, we are fairly confident that he, as I indicated in the testimony, has got several hundred Scud missiles, but we sure are having some difficulty finding them.

Chairman GLENN. Yes.

Mr. GATES. And while we have, I think, a pretty good handle on what he is doing and what he has preserved, no, I don't think we can be totally confident of where everything is and whether we have identified everything.

I would note, in reference to the newspaper story this morning, though, on the parts for these centrifuges that has just been revealed, that we were aware that this was a problem as early as the summer of 1990 when a number of these things were seized in Frankfurt Airport. But I would say we were not able to identify the

alternative site that was being described for the enrichment process; although we had several candidate sites and were looking at them, kind of one by one, trying to identify where they might have been.

Do you want to add anything?

Mr. OEHLER. That is right. No.

Chairman GLENN. Can we say with considerable confidence that we think he does not have a weapons-making capability right now?

Mr. GATES. Yes, sir, I think we can say that.

Mr. OEHLER. I think, certainly, his infrastructure is on hold right now.

Chairman GLENN. Okay. Well, if those special inspection teams that are over there—if they halt, will the existing IAEA safeguards be sufficient to verify he is not again working on the bomb?

Mr. OEHLER. Well, the U.N. measure allows for inspections on into the future, and as long as those inspections continue—the will of the U.N. is to continue with the sanctions and they do take place—I think that we will retard his nuclear program.

Chairman GLENN. I guess it makes us all nervous when there were a lot of things there in Iraq we did not know in the past. I know you can't know everything. You don't have a crystal ball out there that is perfect, but there were an awful lot of things that were not known over there and we wonder if all that information is now out so we are not going to get blind-sided in the future.

There were reports earlier this month that suggested that over 10 metric tons of uranium were shipped by truck through Jordan to Algeria from Iraq. Can you tell us any more about this?

Mr. OEHLER. I know nothing about it.

Mr. GATES. We will have to check on that.

Chairman GLENN. The London Sunday Times reported that Western intelligence now believes the Iraqis and Algerians may have formed a nuclear axis, as they termed it, to build a nuclear weapon. The report indicates that Algeria may have enough plutonium to build a primitive bomb by 1995.

For all of the U.N.'s efforts to restrict and ultimately end Iraq's nuclear ambitions, how can we protect against multilateral efforts with the Iraqis to produce a nuclear weapon?

Mr. GATES. We don't have anything that would verify what that London Sunday Times article said. The possibility of collaboration among these governments, I think, is a real one and it is one that, both through intelligence sources and diplomatic means, we need to watch very closely. But we don't have anything to suggest that that sort of thing has happened yet.

Chairman GLENN. French intelligence reportedly learned of the supply of a research reactor to Algeria by China, again, as early as 1987. Did they share that with us, or when did we learn about that transaction?

Mr. OEHLER. In my view, that information is wrong, sir. I don't believe, to my knowledge, that they had information of that back at that time. I may be wrong, but that is my knowledge.

Chairman GLENN. A press report last week indicates that two Russian scientists were approached by Libya to work in their nuclear energy program. Obviously, the scientists' skills could be used in a nuclear weapons program, as well. Now, you commented brief-

ly on this. Specifically with regard to Libya, have they gone out on a recruitment program as far as you know?

Mr. GATES. We have seen the rumors, but we don't have any corroboration.

Chairman GLENN. An article in the Christian Science Monitor a couple of weeks ago asserts that some White House officials were quoted in December saying that the U.S. Government is convinced that Iran has launched a secret effort to build an atomic bomb. We mentioned that earlier. It further asserts that we have already identified a number of possible undeclared nuclear facilities in Iran. Meanwhile, a recent op-ed in the Washington Post further alleged that Iran now has enough enriched uranium for a bomb.

Are these charges correct, and if so, what are we doing to encourage the Iranians to provide full disclosure about their activities to the IAEA?

Mr. OEHLER. We do not believe that they have any significant quantities of enriched uranium. They do have nuclear research facilities, as I mentioned before, which they haven't necessarily announced to the world. There isn't a need to declare those because they don't have nuclear materials in them, necessarily.

Chairman GLENN. South America, Argentina and Brazil—what can you tell us about their programs? They have signed and are supposedly putting into force an agreement to open their nuclear facilities to mutual inspection. Neither country, however, has signed the NPT, and neither has yet fully implemented the Treaty of Tlatelolco, which would prohibit nuclear weapons in Latin America.

In light of these facts, how confident are you that the Brazilians and Argentineans are serious about their earlier pledge to use nuclear energy exclusively for peaceful purposes?

Mr. GATES. Let me respond first and then invite Dr. Oehler to add. I think we take seriously the commitment on the part of the leaders of both Brazil and Argentina to not pursue nuclear weapons programs. By the same token, Argentina remains an active vendor of nuclear technologies for peaceful purposes all over the world, and sort of end-to-end in terms of equipment and material, but we don't have any indication that that is for weapons purposes at this point.

I think that, as I said at the outset, we take seriously the commitments on the part of the leaderships of these two countries with respect to not having nuclear weapons and to implementing these diplomatic accords that you have described.

Do you want to add anything?

Mr. OEHLER. I think just to emphasize that Brazil has been marketing peaceful nuclear technologies as well.

Chairman GLENN. Coming a little farther north up to Cuba, according to a report in the Journal of Commerce, which was in November of last year, DIA reported in a study that the Cubans have shown an interest in acquiring nuclear weapons material. A Cuban defector, Jose Oro, also reportedly has said that Cuba has launched a program to develop its own reprocessing plant. Could you comment on that?

Mr. OEHLER. No, I can't comment on that. I simply don't know much. Let me say that their economy is in very bad shape right

now and probably any program, if they do have one, would be very slow in maturing. As you know, they have no reactors. They have contracted to build some pressurized water reactors, which are not the best reactors for producing plutonium for nuclear weapons.

Chairman GLENN. How about South Africa? They recently became a party to the NPT. How confident are you that all of their sensitive nuclear materials have been fully declared to IAEA? Do we have independent estimates on that?

Mr. OEHLER. I have not seen the full declaration yet, and there has not yet been an intelligence community judgment on that.

Chairman GLENN. Back to the Soviet Union again, or the CIS now, do we know where the CIS chemical weapons and biological weapons, if they have them, are stored?

Mr. GATES. I think we have a pretty good idea on the chemical weapons. They have had to declare those sites and we have raised the sites with them diplomatically, so I think we have a pretty good fix on that. I think we do not have anything like that kind of information on their biological weapons. We have a number of places where we think the biological agents are produced and where we are suspicious that they have biological agents, but I don't think we have a good idea on their storage facilities.

Chairman GLENN. Are those facilities you say we do have a good handle on—are those all in Russia, per se, or are they in some of the other republics, too?

Mr. GATES. All in Russia.

Chairman GLENN. They are all in Russia, okay. Do we know whether any of the weapons have been sold or exported to any of the other republics?

Mr. GATES. I don't think we have any evidence of that.

Chairman GLENN. And not outside the former Soviet Union, I presume?

Mr. GATES. No.

Chairman GLENN. No; okay. Back to their nuclear weapons, per se, do we know the extent to which CIS nuclear weapons are equipped with disabling devices if they are tampered with? Back to the terrorist thing and the stealing of a weapon or something like that and whether it would be usable or not, do they have disabling devices that would inactivate the whole thing unless somebody knew exactly what they were doing?

Mr. GATES. I would like to respond to that on a classified basis, Mr. Chairman.

Chairman GLENN. All right, good. You mentioned the possibility of sharing intelligence—back to that one, too—with the CIS. What kind of intelligence do you think that we would be able to share with them and get from them? Could you elaborate a little more on what you would expect out of that in the future?

Mr. GATES. It is hard to be precise because we haven't really gotten into it at this point. It seems to me that if we learned—if we were to receive independent evidence of some of the press stories that we have seen—that talking with them would provide an opportunity for them to conduct an independent check to see if these stories were true. We could work with them to identify vulnerabilities in their control system if we had reports that there might have been leakage or if we had information that perhaps certain scien-

tists or military officers were contemplating some kind of action. I think we could find ways to share that kind of information so they could pursue it.

Chairman GLENN. We spoke earlier about the ICBMs and SLBMs that still are targeted on this country, still have the latitudes and longitudes of our major sites all targeted even as we speak here today. But branching out to other places, how many Third World ballistic missiles will be able to reach the U.S., say, in this decade or, say, by the year 2000? How fast do you see those programs developing and how much of a threat do you see them being to this country?

Mr. GATES. Well, as I indicated, I think that we do anticipate that at least some will have the capability of reaching the United States by the end of the decade. I don't know in terms of the numbers.

Mr. OEHLER. Not any of the major Third World countries that we are interested in.

Chairman GLENN. Can you tell us what those countries might be?

Mr. OEHLER. The countries with the more advanced space launch vehicle programs can also, if they so choose, use those same boosters for military purposes.

Chairman GLENN. Okay, which would be what countries?

Mr. OEHLER. Well, I would just as soon not name all of the names here.

Chairman GLENN. All right, okay.

Mr. OEHLER. But I think that you can make up the list from that.

Chairman GLENN. Yes, okay. Have you run any analysis that would indicate what you think the chances are that there could possibly be a seizure of nuclear weapons—what the likelihood of that is—or fissile material that could be developed by some of these countries that might be a danger to us?

Mr. GATES. Seizure of whose fissile material?

Chairman GLENN. In other words, if any of these tactical nuclear weapons fell into anyone else's—what are the chances of that happening do you think? Are they under good enough control that the chances would be very remote, or is it likely?

Mr. GATES. I think the view of the intelligence community is that the likelihood of any of these weapons falling into the hands of people not authorized to have them is very low, but it is not negligible, and that is the source of our concern.

Chairman GLENN. How do you see the military cohesion in the Soviet Union right now? Is it breaking down to where there is no longer the same centralized control we once had, or is that holding up pretty well?

Mr. GATES. Particularly on the conventional side, it is beginning to break down as the different republics lay claim to parts of what was the Soviet army and the Soviet armed forces, other than the strategic forces, air defense and parts of the navy.

The morale of the military is low. They are having difficulties of getting supplies of food and housing. For those who are coming back from Eastern Europe, there is difficulty in finding jobs for themselves and schools for their children. They are confronted with

very difficult choices about taking loyalty oaths, whether to take a loyalty oath to the Commonwealth or to Russia or to one of the republics. We have commanders of certain units declaring their allegiance to republics, but uncertainty about the loyalty of the troops in their units.

So it is a very difficult time for the Soviet military. It is a time in which we think that the command links at the local level, at the lower levels, are not too bad because they have a greater likelihood of being fed in the unit than if they were released and just sort of turned out on the economy without a job. I don't think that contradicts what I said about the difficulties of getting proper food and housing, and so on, for the military as a whole.

So it is a tough time, and that is one of the reasons that we have elaborated our concern in terms of the state of the military with respect to some of the problems we have been talking about today.

Chairman GLENN. Can you give us a figure on what percent of their military forces are Russian, per se, because if they stayed under Yeltsin's command, say, are they big enough that they are going to be the 400-pound gorilla no matter what happens off in the other republics? Do you have a figure on that?

Mr. GATES. I will have to get back to you on that, Mr. Chairman. I think it is on the order of two-thirds, or so. It may be higher. I am just not certain.

Chairman GLENN. What is the agency's estimate on the prospects of a coup against Yeltsin in the next several months? Do you hold that out as a real possibility or remote?

Mr. GATES. I think the intelligence community's view is that the likelihood of a military or security services coup against Yeltsin is not particularly high. What you are more likely to see is action on the local level to obtain necessary food and supplies. The Soviet military may be in a time of troubles, but they are still smart enough to realize they don't want to take on responsibility for running that country right now.

Chairman GLENN. Our ability to monitor—in the wake of the 1986 Chernobyl accident, we have come to learn that the Soviet Union experienced other accidents and serious radiological contamination problems, such as the 1957 high-level nuclear waste explosion at Kyshtym in the Ural Mountain region and large radiation doses received by nuclear workers and residents living near Soviet nuclear test sites.

In this regard, has the CIA performed any comprehensive review of environment, safety, and health problems at former Soviet nuclear sites which you can share with the Committee?

Mr. GATES. We have not been able to do this on a comprehensive basis yet, Mr. Chairman, but we have been tracking what we have been able to learn about serious environmental problems growing out of the nuclear and chemical and biological programs over time.

We know, for example, thanks to glasnost, that in the same site that you are talking about, near the village of Myok, in the southern Urals, that the water supply was badly contaminated with radioactive material. We know that the Yenisey River was badly contaminated—this is near Krasnoyarsk—badly contaminated by a plutonium production facility in that area. We know that in a small town near St. Petersburg that the local residents were able

to get what we think was a BW program plant closed down because several people fell ill. So there are a number of sites like this, and I would assume that, as we go along and are able to learn more, that that list will grow considerably.

Chairman GLENN. On our ability to monitor these things, it is my understanding that the Department of Energy is actively pursuing the use of remote sensing and imaging technologies to aid in the characterization of contamination at DOE nuclear weapons sites. Their goal has been to attempt to go to some new technologies that would leap-frog past the expensive and time-consuming conventional ES&H measuring techniques, even using satellites, airborne surface remote sensing technologies.

Have you followed that, or are you working with Jim Watkins on that, and the idea being could these be applied to international monitoring, which would let us have a better handle on these things when they happen?

Mr. GATES. I assume that they could be applied.

Mr. OEHLER. I have no idea. I think right now our best approach is that the Soviets, and now the Russians themselves, are very interested in finding out what the total contamination is, and they have been quite forthcoming in talking about a number of sites that have been polluted this way. And that is going to be far better data than I would imagine it would be possible to get from remote means.

Chairman GLENN. The Soviets have not done nuclear testing for a while. Are they still doing any missile testing? In other words, are they doing any firing out of Tyuratam out to the Kamchatka peninsula?

Mr. GATES. Yes.

Chairman GLENN. Are they continuing their ICBM testing?

Mr. OEHLER. Yes, sir.

Chairman GLENN. And out of Plesetsk, also, up north?

Mr. GATES. I don't know if there have been any launches.

Mr. OEHLER. Yes, there have been, at Plesetsk. They have also tested, I think, some of their—they are looking to test some of their ICBM boosters in an application for space launch vehicles and, in fact, have talked about sales of some of these.

Chairman GLENN. When these occur, do we send any demarches to the Soviets on their continued testing, or what do we do? Do we just do nothing? Do we just monitor it and that is it?

Mr. GATES. I think we just monitor it as long as they are in compliance with the arms control agreements.

Chairman GLENN. How effective are demarches? Do you have any confidence in demarches changing anybody's mind anywhere around the world? We send them out by the basket full, I understand.

Mr. GATES. I think that they do have an effect, certainly not in every case, and maybe not even in most cases. But I think that there are two aspects to it. The first is, sometimes it is enough for a foreign government just to know that the United States has them in its figurative cross-hairs on one or another particular problem, whether it is a proliferation problem or something else—a violation of economic sanctions; that we have identified that they are not

playing by the rules, and sometimes that does bring them to change their behavior.

Sometimes, it causes them to be more careful about that behavior, but it may also serve to retard it. Other times, I think that the behavior of governments is affected when some of their behavior or activities are brought into the glare of publicity or have the public spotlight, particularly if they are engaged in practices that, while economically profitable, may be contrary to international norms or the general view of the international community.

So just as I think you cannot generalize too much about sanctions and embargoes and things like that, the same thing is true of demarches. There are plenty of instances in which they have been successful to make them worth doing.

Chairman GLENN. Richard Perle, testifying here one day, called them demarche-mallows. That was his view of them, but Richard has his own view on things.

What role do you play in whether something like that is going to be sent or not? Do you just furnish background information for it? I would think there would be a little problem because some of those things might tip off some of your intelligence-gathering methods that you wouldn't want revealed particularly.

Mr. GATES. We work very closely with the State Department, the National Security Council, the Defense Department, and the Arms Control and Disarmament Agency in putting together those demarches precisely so that we can protect our sources and methods.

Chairman GLENN. At Tyuratam, the testing is still continuing there, you indicated a moment ago. How many launches have they had over the last, say, 6 months, or so? Can you give us a rundown on that?

Mr. OEHLER. No, I cannot.

Mr. GATES. We can get that information for you.

Chairman GLENN. Are there a number of them, though?

Mr. GATES. Yes, sir.

Chairman GLENN. This wasn't just one thing to keep the launch pad operating, was it? There are a number of them? It is a real testing program?

Mr. OEHLER. Yes. We have not seen much of a slow-down in the testing programs.

Chairman GLENN. Well, how do you account for that, because I would think that if they are serious about all of the things that they are talking about doing and their own internal concerns that some of those things that are—those tests are very expensive to conduct for them, as well as for us. I would think that they would be pulling down on that rather rapidly.

Mr. GATES. I don't think that there is a precise answer to that, Mr. Chairman, but I think that there are probably several factors involved. One may well be inertia. These programs have been going for quite some time. They probably have a test schedule that they have had for a long period of time. The missiles are available to them, and so on.

I think that, also, as Dr. Oehler indicated earlier, they are interested increasingly in marketing space launch services, and so they would want to continue testing for reliability and testing these capabilities. Third, I think that there is continuing interest on the

part of the reform leadership of maintaining the strategic capabilities of Russia, of the CIS, even though that may be at a considerably smaller level or a considerably lower level of launch vehicles and warheads in the future. There is every indication that they intend to keep those programs viable.

Chairman GLENN. Who would they see as a threat to them now?

Mr. GATES. Well, I don't know——

Chairman GLENN. Here we are trying to help them, sending food and everything else. We can't possibly be viewed as a threat, and yet we are still the targets of the ICBMs, the SLBMs. Who else in the world would they see as a threat that would require a continual testing and a continual development program?

Mr. GATES. I am not entirely convinced that all of the Soviet military see us as their great friend and benefactor at this point, but I think it may be, as much as anything, a guarding against uncertainty in the future, as well as the status of a greater superpower.

Chairman GLENN. Thank you. We appreciate your being here this morning. We will follow up on the questions we indicated, and we may have other questions once we review the record. We appreciate very much your being here this morning.

PREPARED STATEMENT OF ROBERT M. GATES

INTRODUCTION

Good morning. Thank you for giving me the opportunity today to talk about a subject of critical importance to all of us. The Intelligence Community has been concerned about the proliferation of weapons of mass destruction for several years. In that time, our resources in tracking and combating the problem have grown substantially, and we have recently made organizational changes to deal with it more effectively. As DCI, I intend to continue to make work on the proliferation problem a top priority.

The Intelligence Community also has consistently conveyed its concerns to policymakers, to you on the Hill, and to the public. For example, Judge Webster addressed the subject in open session of this committee in February 1989, and again in May 1989. The policy community has taken our concerns seriously and has done a great deal to address them. Agreements like the Missile Control Technology Regime, and formation of consultative bodies on the spread of chemical and biological Weapons, like the Australia Group, are just two examples of this effort. There are many individual U.S. initiatives underway or planned. I will touch on a few of these in my remarks today, but I recommend that you get a more complete picture from the Administration during your deliberations.

In the wake of Desert Storm, after we discovered just how far Iraq had gotten in its nuclear weapons program, we have succeeded in further energizing the international community to combat the proliferation effort. The cooperation that has existed between traditional allies has spread to include other members of the world community and even includes new republics formed from the old Soviet Union.

With these preliminaries, let me launch into an overview of the problem. First I will speak generally, then I will address the concerns raised by the dissolution of the U.S.S.R., and then turn to the problems we face in other regions.

OVERVIEW

We continue to witness a steady and worrisome growth in the proliferation of advanced weapons. Today, over 20 countries have, are suspected of having, or are developing nuclear, biological, or chemical weapons and the means to delivery them.

There are several reasons for the proliferation of weapons of mass destruction. First and foremost, the technologies used in these weapons are simply more available and more easily absorbed by Third World countries than ever before. Nuclear and ballistic missile technologies are, after all, 1940s technologies by U.S. standards. BW and CW technologies are even older, and they are easier and cheaper to develop.

Second, most of these technologies are so-called dual use technologies—that is, they have legitimate civilian applications. This makes it difficult to restrict trade in them because we would be limiting the ability of developing nations to modernize. For example, much of the technology needed for a ballistic missile program is the same as that needed for a space launch program. Chemicals used to make nerve agents are also used to make plastics and process foodstuffs. Moreover, a modern pharmaceutical industry could produce biological warfare agents as easily as vaccines and antibiotics.

A third reason for the increase is that individuals, companies, and in some cases countries, facing stiff economic competition in legitimate business, look for quick profits in illicit sales.

Gerald Bull and the "supergun" he was building for Iraq illustrate another disturbing trend. Countries like Iraq are no longer satisfied with hand-me-downs from the large powers. Instead, they want state-of-the-art weapons that will give them prestige as well as first class capabilities. If this trend continues, and as budget reductions and arms control agreements limit our advances, we will increasingly see weapons in the Third World with technical capabilities that could challenge U.S. defenses.

Finally, as some countries acquire weapons of mass destruction, their neighbors feel compelled to develop comparable capabilities for reasons of politics, pride, and deterrence.

Now let me review the threat in some detail. Only China and the Commonwealth of Independent States have the missile capability to reach U.S. territory directly. We do not expect increased risk to U.S. territory from the special weapons of other countries—in a conventional military sense—for at least another decade. However, the threat to Europe, the Middle East, and Asia is real and growing:

U.S. or multinational forces deployed abroad could face an increased threat of air-delivered nuclear weapons before the end of the decade. Several countries now have missiles and rockets that could carry nuclear warheads, and others are likely to field some ballistic missiles with nuclear warheads in coming years. If any of those countries could acquire even a few nuclear warheads it could soon become a nuclear threat.

Most of the major countries in the Middle East have chemical weapon development programs, and some already have stockpiles that could be used against civilians or poorly defended military targets. Most countries have not yet equipped their delivery systems to carry weapons of mass destruction, but over the next decade, many countries will—from North Africa through South Asia—if international efforts to curtail this fail.

China and North Korea may sell other countries longer-range missiles and the technology to produce them. Countries with special weapons that succeed in buying these missiles will further expand and accelerate the special weapons arms race already under way in the Middle East and South Asia.

THE CIS DIMENSION

The decade of the 90s is just beginning, but already we have a new dimension to the proliferation problem. The breakup of the Soviet Union threatens the stability of Moscow's centralized command and control system and threatens to unleash technologies and materials that had been carefully controlled. Russia and the other new republics face multiple internal crises—the possible collapse of authority, potentially large-scale civil disorder, and unraveling social discipline—while they still have about 30,000 nuclear weapons, the most powerful of which are aimed at us.

Moscow's centralized nuclear command and control system continues to function even as control of conventional forces begins to shift the republics. Russian Federation President Yel'tsin assumed control of CIS strategic nuclear forces from Gorbachev on Christmas day. Under current and foreseeable circumstances, we believe the new National Command Authorities will be able to maintain effective control over their nuclear arsenal. However, this elaborate and centralized system was designed to rely, in part, on professional integrity. As we watch the breakup of the center and the military, we must worry about the growing dissatisfaction of military personnel, including those responsible for guarding, operating, and maintaining nuclear weapons.

Traditionally, the Soviets had three nuclear briefcases; they were held by the President, the Minister of Defense, and the Chief of the General Staff. Today there appear to be only two. Interim Commander-in-Chief of Commonwealth Armed Forces (formerly the Minister of Defense) Shaposhnikov said two weeks ago that he

and Present Yel'tsin are the only ones with nuclear briefcases. The third is now in reserve.

We are still looking to see how Russia and the other republics will sort out the ownership of nuclear weapons, and what procedures they establish to maintain and control them. Kazakhstan, Byelarus, and Ukraine all said that they want to return the nuclear weapons that are on their soil to Russia for dismantlement and destruction. They have said they want to share nuclear decisionmaking with Russia, but the extent to which they can influence decisions is not yet clear. In particular, building a nuclear command and control system that allows leaders outside Moscow to participate in the timely execution of orders will be difficult.

With respect to the capability to dismantle nuclear weapons, Russian officials have claimed that they can dismantle about 1,500 weapons per year. We have a moderate degree of confidence that they can do this, but at that rate it would take well over ten years to dismantle the 15,000 weapons they say they will destroy.

Turning to the proliferation question resulting from the Soviet breakup, we face a range of troubling possibilities, potentially including the sale of materials, weapons, or a "brain drain" to weapons programs abroad. In response, an international effort is taking place, led by the U.S., but with the cooperation of many Europeans and republics of the CIS, which clearly should mitigate the danger. Boris Yel'tsin and most of the other republic leaders are serious in preventing this, and have announced policies to prevent this hemorrhage. Under Secretary of State Bartholomew is in Moscow as we speak recommending concrete actions and offering U.S. assistance.

We except to see attempts by the former Soviet Union's defense industrial sector to market dual-use technologies of concern, notably for nuclear power and space launch vehicles. For example, the space organization Glavkosmos has reorganized to market a joint Russian-Kazakhstan space launch services, and Russia is offering SS-25 boosters as space launchers. Other nations with ambitious weapons development programs are certain to try to exploit the opportunity to get some of the world's most advanced weapons technology and materials at bargain basement prices.

We have seen a number of press reports that Soviet nuclear materials have already been offered on the black market. Thus far, we have no independent corroboration that any of these stores are true, and all that we have been able to check have turned out to be false. Because of the great demand for these materials, the difficulty in determining the authenticity of nuclear materials, and the widespread availability of small quantities of uranium and plutonium in research facilities, we can expect to see many scams and hoaxes. This will make our job even more difficult.

Smuggling in Central Asia and the Transcaucasus is an ancient and highly developed activity. Because these republics are near states that are deeply interested in acquiring special weapons, traders no doubt are acutely aware of the potential value of sensitive materials and technologies, and would be eager to act as middlemen.

Even when the KGB and the armed forces were controlling the borders in these areas, local communities conducted largely uncontrolled cross-border trade. Now, the borders are under local control. Despite the rules of the Commonwealth, some republics or regions may become more closely aligned with their non-CIS neighbors. Trade that earns hard currency is likely to be encouraged, and inhibitions against trade in special weapons materials or equipment may weaken and disappear.

We are closely watching for a "brain drain" from the former Soviet republics. The sheer number of people associated with Soviet weapons programs gives some idea of the potential size of the drain. We estimate that nearly one million Soviets were involved in the nuclear weapons program in one way or another, but probably one a thousand or two have the skills to design nuclear weapons. A few thousand have the knowledge and the marketable skills to develop and produce biological weapons. The most worrisome problem is probably those individuals whose skills have no civilian counterpart, such as nuclear weapons designers and engineers specializing in weaponizing CW and BW agents. They were well treated under the Soviet system, and will find it hard to get comparable positions now.

Most Soviet scientists who want to emigrate probably would prefer to settle in the West, but the West probably cannot absorb all of them. Based on Soviet scientific collaboration in the 1980s, Cuba, India, Syria, Egypt, and Algeria are most likely to have the contacts and resident scientists to assist emigrating Soviets. There presumably is a point beyond which Russia and the other republics would want to stanch the outflow of talent. But scientists need not leave at all to pass on specifications or advice to agents of another country.

I should add that we may also see leakage of highly sophisticated, but less controlled, "conventional" military technologies and weapons from the former Soviet

republics. Technologies of concern include stealth, counterstealth, thermal-imaging, and electronic welfare. Weapons could include fuel-air explosives, precision guided munitions, and advanced torpedoes.

As a result of the proliferation of new weapons technologies—conventional or special—I expect that foreign military capabilities will expand and become considerably more complex to deal with. Some we will not have anticipated. The range of conditions under which these capabilities might be used is much wider than we were accustomed to in the past, when the main threat was from the Soviet Union and we understood it well. Keeping tract of burgeoning foreign military capabilities will be one of our greatest challenges in years ahead. The potential for technological surprise in the Third World is growing, as some international restrictions on foreign access to dual-use technologies are loosened.

REGION BY REGION

Iraq

Having discussed proliferation generally, I will now review the problem region by region. In the Middle East, Iraq is still a great challenge. Saddam has built formidable programs in all four areas of weapons of mass destruction. The U.N. Special Commission has worked diligently to eliminate Saddam's programs, but as the episode in the parking lot in Baghdad illustrates, Saddam digs in whenever the Commission gets close to something he especially wants to protect.

There is no question that Desert Storm significantly damaged Iraq's special weapons production programs. It will take varying lengths of time for Baghdad to recover:

Nuclear weapons production is likely to take the longest time. Although the technical expertise is still there, much of the infrastructure for the production of fissile materials must be rebuilt. However, we measure the time required in a few, rather than many, years.

The chemical weapons production infrastructure also was severely damaged and will have to be rebuilt. Much of the hard-to-get production equipment was removed and hidden before bombing started, however, and would be available for reconstruction. If U.N. sanctions are relaxed, we believe Iraq could produce modest quantities of chemical agents almost immediately, but it would take a year or more to recover the CW capability it previously enjoyed.

The BW program also was damaged, but critical equipment for it, too, was hidden during the war. Because only a small amount of equipment is needed, the Iraquis could be producing BW materials in a matter of weeks of a decision to do so.

We believe a number, perhaps hundreds, of Scud missiles and much Scud and Condor production equipment remain. The time and cost of reviving the missile program depend on the continuing inspection regime, and then on how easily the regime can get critical equipment from abroad.

In our opinion, Iraq will remain a primary proliferation threat at least as long as Saddam remains in power. The cadre of scientists and engineers trained for these programs will be able to reconstitute any dormant program rapidly. Saddam clearly hopes his intransigence will outlast the international will for sanctions. Fortunately, international resolve to maintain sanctions, including U.N. inspections, remains strong. As long as that is so, Saddam will be severely hampered from rebuilding his weapons programs.

If the Iraqi government ever becomes serious about giving up its capacity to produce weapons of mass destruction, as mandated by U.N. resolution 687, we should see a full accounting for its past actions. This would include an inventory of Iraq's nuclear materials, a description of its missile and warhead production infrastructure, admission that Baghdad did indeed have an offensive biological weapons program, including the production and weaponization of biological agents, and most important, an accurate list of the critical personnel in the programs and the outside suppliers so that the U.N. can better monitor any cessation of prohibited activities.

Iran

Iraq is not our only concern in the Gulf and the Middle East. Iran has embarked on an across-the-board effort to develop its military and defense industries. This effort includes programs in weapons of mass destruction not only to prepare for the potential reemergence of the Iraqi special weapons threat, but to solidify Iran's preeminent position in the Gulf and Southwest Asia.

Iran continues to shop Western markets for nuclear and missile technology and is trying to lure back some of the technical experts Tehran drove abroad during the 1980s. Increasingly, however, Iran has turned to Asian sources of military and tech-

nical aid, and it probably hopes contacts in Kazakhstan will allow it to tap into Soviet weapons technology. Tehran's principal sources of special weapons since the Iran-Iraq war have been North Korea for long-range Scuds; and China for battlefield missiles, cruise missiles, and nuclear-related technologies.

China, for example, is supplying a miniature neutron source reactor and an electromagnetic isotope separator. This equipment has legitimate peaceful uses, but Iranian public statements that it should have nuclear weapons suggest otherwise. Iran also says it has a right to chemical weapons in light of Iraq's use of CW against them; we believe it has exercised this option.

We also have good reason to believe that Iran is pursuing collaborative arrangements with other would-be special weapons developers in the region.

Syria

Syria, too, has turned to North Korea. Because Damascus has been unable to get SS–23s from the Soviet Union, it acquired an extended range missile from P'yongyang. It also appears to be seeking assistance from China and Western firms for an improved capability with CW and BW warheads. In the nuclear area, Damascus is negotiating with China for a reactor.

Israel, Saudi Arabia, Egypt

Other countries in the region seem to have decided recently to strengthen their deterrent and defensive capabilities as a hedge against long term threats from Iran and a resurgent Iraq.

The Israelis continue to invest in development of the Arrow anti-tactical ballistic missile and test and maintain their ballistic missile force.

The Saudis are expanding their CSS–2 missile support facilities.

Egypt has a missile production facility that could begin operations at any time.

Libya

In North Africa, despite international outcries, Libya's CW program continues. We estimate that the production facility at Rabta has produced and stockpiled as many as 100 tons of chemical agents.

The Libyans have cleaned up the Rabta plant, perhaps in preparation for the long-awaited public opening of the facility to demonstrate its supposed civilian pharmaceutical purpose. But they have yet to reconfigure the plant to make it incapable of producing chemical agents.

Even if Rabta is closed down, the Libyans have no intention of giving up CW production. There have been a number of reports that Libya is constructing another CW facility—one they hope will escape international attention.

For several years the Libyans have made a concerted effort to build a BW facility, but this has not progressed very far. We believe they need assistance from more technically advanced countries to build one and make it work.

Persistent efforts to deny Libya access to nuclear, BW, and delivery system technology have undoubtedly stalled these programs to a great extent by forcing Qadahfi to turn to the less advanced technology and less trustworthy sources available in gray and black markets in the developing world.

Libya has by no means abandoned its long-term goal of extending its military reach across the eastern Mediterranean. Setbacks have limited it to the relatively short-range Scuds Libya now possesses. Both Russia and China have rejected Libyan purchase requests. Tripoli is now shopping diligently throughout the world for an alternative source, and recent South Korean allegations suggest Libya has found a seller in North Korea.

Algeria

As you know, Algeria is nearly finished building a nuclear reactor it bought from China. Both the Algerians and Chinese have assured us the reactor will be used only for peaceful purposes, but we are concerned about the secrecy of the original agreement and the lack of inspections.

According to the International Atomic Energy Agency, Algeria finalized an agreement with the IAEA to safeguard the reactor. The IAEA Board of Governors will review the agreement at its meeting in February. We hope this will lead to a quick inspection and allay some of our concerns.

India and Pakistan

In South Asia, the arms race between India and Pakistan is a major concern. Not only do both countries have nuclear weapon and balistic missile programs, they re-

cently have pursued chemical weapons as well. These programs are particularly worrisome because of the constant tensions and conflict in Kashmir.

We have no reason to believe that either India or Pakistan maintains assembled or deployed nuclear bombs. But such weapons could be assembled quickly, and both countries have combat aircraft that could be modified to deliver them in a crisis. Both have publicly agreed to certain confidence-building measures such as not attacking each others' nuclear facilities, and are hopeful that the continuing dialog will bear fruit.

The U.S. continues to oppose exports of space launch vehicle or advanced computer technology to either country by the CIS, China, or the MTCR partners because of the high probability that such technology would end up in a nuclear long range ballistic missile program.

North Korea

North Korea's programs are our most urgent national security threat in East Asia. The DPRK has invested heavily in the military, and depends on arms sales for much of its hard currency earnings. It has produced and sold copies of the Soviet Scud missile to several Middle Eastern countries. It has also modified its Scuds giving them a range greater than Iraq's and has sold them to Iran and Syria. P'yongyang is not far from having a much larger missile for sale, one with a range of at least 1000 km—enough to reach Osaka, Vladivostok, or Shanghai, if deployed on North Korean soil.

The North's nuclear program is our greatest concern. P'yongyang has an entire infrastructure that can support the development of nuclear weapons, from the mining of the uranium to the reprocessing of reactor fuel to recover plutonium. It has constructed two nuclear reactors whose sole purpose is to make plutonium. One of these reactors has been operating for four years; and the second, much larger reactor, will start up this year.

In December, North and South Korea negotiated an historic agreement in principle for a nuclear-free peninsula. Each side has committed itself not to—quote—test, manufacture, produce, receive, possess, store, deploy, or use—end quote—nuclear weapons. Both sides also agreed not to have nuclear reprocessing or uranium enrichment facilities. Verification, to include on-site inspections, remains to be worked out, however.

We believe the significance—indeed the value—of the North-South nuclear accord can be judged only by the inspection regime P'yongyang ultimately accepts. North Korea has not been forthcoming in this area until very recently. It signed the Nuclear Nonproliferation Treaty back in December 1985, and was thereby obligated to declare and place all nuclear facilities under safeguards. P'yongyang, however, only this month finally pledged to sign a safeguards agreement by February. We remain concerned with how the North will interpret its responsibility to permit IAEA inspections. The North has not yet even admitted the existence of, much less declared, its plutonium production reactors and reprocessing facility at the Yongbyon nuclear research center. It has consistently missed deadlines for completion of the agreement procedures and several times has tacked on additional conditions to acceding to the agreement.

Overall, our concerns about the North's nuclear effort extend well beyond the peninsula. We worry not only about the consequences for stability in Northeast Asia if the North acquires nuclear weapons, but also about the possibility of P'yongyang putting these weapons and nuclear technology into the international marketplace.

China

As for North Korea's neighbor, China has made several important public commitments that suggest an intention to honor international agreements on both missile and nuclear proliferation. Beijing is developing two solid fuel SRBMs—the M–9 and M–11—that exceed the range and payload limits of the MTCR (500 kilograms and 300 kilometers). It has offered to sell these missiles in the past, but indicated that its conditional commitment to abide by MTCR guidelines and parameters would apply to both missiles.

Last August, China pledged it would sign the NPT, and its National People's Congress ratified the agreement. China is now obligated to require all recipients of its nuclear equipment to adhere to IAEA safeguards. This development is important because China has long been a supplier of nuclear technologies in the Third World. While China has claimed that all such exports were for peaceful purposes, it has not always required recipients to adhere to safeguards. Despite its accession to the NPT, we remain concerned that Beijing could claim existing contracts are grandfathered, and therefore exempt, from IAEA safeguards.

WESTERN SOURCES

Unhappily, I must report that commercial enterprises in the West continue to sell sensitive technology to countries developing weapons of mass destruction. Some of this trade goes through front companies or third countries to innocuous-sounding consignees. Most of the sales are of equipment that has some legitimate end use, justifying the claims of exporting firms and export control authorities that they had no way of knowing a particular shipment was destined for a special weapons development program. In all too many cases, however, exporters knew very well who they were dealing with. They may even have sought the business and collaborated with the purchaser to evade export regulations.

Libya, Iran, and India, for example, are continuing to obtain advanced materials such as specialty steels, high-purity graphite, and composite materials for rocket motors from West European suppliers. The sale of precision machines tools with missile and nuclear applications are of particular concern.

INTERNATIONAL CONTROL EFFORTS

There is good news on the proliferation front, much of it the result of U.S. leadership. Since the Gulf war and revelations about Saddam's programs, many responsible countries have expanded export control laws, increased penalties for violators, and stepped up enforcement regimes. International organizations and agreements, such as the IAEA and the Missile Technology Control Regime, have taken on a new life. The governments of several key countries have assured the State Department that they have abandoned nuclear weapons or ballistic missile programs. For example, South Africa has signed the NPT, and Argentina and Brazil have taken some steps away from their nuclear options. South Korea and Taiwan, who had entertained the thought of developing nuclear weapons in the past, have both walked away from this option. The recent reunification talks with North Korea have shown that the South is serious in its efforts to achieve a nuclear free peninsula.

Israel has publicly announced that it will abide by the MTCR guidelines and, according to Israeli press, will not cooperate any longer with South Africa on ballistic missile development. Brazil has announced its space launch program has been placed under civilian control, and the Argentine government said that it is investigating the suspended Condor II program.

Although the members of the MTCR and the Australia Group—the regime to control CW and BW technology—have been actively adding new members to their rosters and refining specifications of equipment and materials covered, there are limits to what we can expect multilateral control regimes to accomplish. Some countries will never find it in their interest to join. Even membership is no guarantee of good behavior. Trade and other incentives conditioned to membership can force some countries to accede even though they have little intention of enforcing the regulations.

Despite the greater awareness and interest in doing something about the proliferation problem, the greater availability of the relevant materials and technologies, the difficult economic times in many potential supplier countries, and enduring regional animosities, suggest that the problem will get worse.

THE ROLE OF INTELLIGENCE

I believe intelligence plays a critical role in this nonproliferation effort. As I said in my opening remarks, proliferation is a top priority in the Intelligence Community. We recently formed a Nonproliferation Center with senior officers from several agencies to better formulate and coordinate intelligence actions in support of our government's policy. This center will coordinate the extensive and detailed information that all the Intelligence Community components provide to arms and export control negotiators and to technical experts throughout the government. We are continuing to strengthen and add resources to this effort. As the foregoing suggests, we have accumulated considerable information. At the same time, we are aware of our shortcomings. For example, while we correctly warned of Saddam's nuclear program, we underestimated its scope and pace.

We have also worked closely with the U.S. State Department, who in turn has worked closely with the IAEA and the U.N. Special Commission in implementing U.N. resolution 687. And we have and will, where appropriate, share intelligence with other countries working to stem the proliferation threat—including the governments of the new republics of the Commonwealth of Independent States.

In addition to supporting the efforts of the U.S. and other like-minded governments in stemming proliferation, we have a responsibility to defense planners to

assess the status of special weapons programs abroad and to forecast dangers in the long term. We can hope that there will be no further transfers of special weapons or delivery systems to potential enemies; we can hope the countries that have said they will abandon development programs will do so; and we can hope that illicit technology transfers will stop. But we cannot assume they will. In fact, it is likely that those countries that have special weapons, or those developing them, will keep what they have and try to make progress surreptitiously.

Advances in special weapons are extraordinarily difficult to monitor. We will do everything we can to unearth and examine all relevant cases. And when we uncover dangerous developments, we will present our findings to the decisionmakers in the Administration and to you in Congress.

IN CLOSING

In closing, I would like to say that nonproliferation efforts have had a positive effect. There is strong international support for both the MTCR and the Australia Group. And the level of attention to export controls among all the civilized countries has never been greater. Despite this, however, we have our work cut out for us. As this presentation notes, there are still some disturbing trends. This message may be unpleasant and require difficult actions, but as I pledged to the Defense Policy panel last month, we will continue to describe the world as it is—not as we or others would wish it to be.

I hope that these comments will serve as an overview. I would be happy to answer any questions you may have on the subjects I have covered today. I will try to answer all I can, but please allow me to reserve for a closed session those answers that get into sensitive matters.

Thank you.

Chairman GLENN. Thank you.

[Whereupon, at 12:04 p.m., the committee was adjourned.]

56-928 (48)

ISBN 0-16-039043-5